



India. Meteorological Dept.



Registered No. B-3097

INDIA WEATHER REVIEW

Monthly Weather Report

JANUARY

1959
2 JUN 14
Copy 1965

QC
990
I 39
I 52
1959

LIBRARY
FEB 2000
National Oceanic and Atmospheric Administration
U.S. Dept. of Commerce

Published by authority of the Government of India

Good activity of the western disturbances resulting in abundant rainfall over the northern and the central parts of the country.

Four western disturbances moved across the country during the month. All the four were fairly active and either the disturbances themselves or their induced lows could be traced right upto Assam. Tabular statement showing the movement and activity of the western disturbances and their induced lows is given below (Please see table attached).

In association with these western disturbances, there was a more or less persistent incursion of moist air from the Bay of Bengal into the central parts of the country. The moist air also occasionally extended into Uttar Pradesh and Northeast India. Madhya Pradesh also experienced thundershowers on most of the days during the last three weeks. Hailstorms were reported from Vidarbha on 21st and from north Madhya Pradesh on 21st and 22nd and from Bihar on 22nd. According to newspaper reports, hailstones fell so thick at Tundoo and Sinidih in Bihar that fields and wastes lay under a 4 inch deep white mantle.

As usual, the night temperatures decreased in the rear of each western disturbance described above. However, in terms of their departure from the normal, the temperatures were generally above normal over the country outside northwest India on most of the days. Even over northwest India, they were above normal on many days except in the second week and in the latter half of the last week of the month when the temperatures were below normal.

Total rainfall during the month was in large defect in the Bay Islands, Saurashtra and Kutch, Vidarbha, the Madras State, Kerala and the Arabian Sea Islands, in moderate defect in Jammu and Kashmir and west Rajasthan and in slight defect in coastal Andhra Pradesh. It was in large excess in West Bengal, Orissa, Bihar State, Uttar Pradesh and Madhya Pradesh, in moderate excess in Assam and the Punjab (I) and in slight excess in Maharashtra. There was no rain over the rest of the country outside east Rajasthan, where it was normal.

The mean maximum temperature was above normal in the Bay Islands and below normal in Sub-Himalayan West Bengal and Uttar Pradesh. It was normal over the rest of the country. The mean minimum temperature was above normal in the Bay Islands, northeast India, Uttar Pradesh, East Madhya Pradesh, Gujarat, Maharashtra, Vidarbha, Telangana, Rayalaseema, the Madras State and coastal and north Interior Mysore and was normal over the rest of the country.

Mean relative humidity in the morning was above normal in Bihar Plains, Uttar Pradesh, the Punjab (I), Rajasthan, Madhya Pradesh, Maharashtra, Vidarbha and coastal and south Interior Mysore and was normal over the rest of the country.

Mean cloud amount in the morning was above normal in Sub-Himalayan West Bengal, Bihar State, East Uttar Pradesh, Madhya Pradesh and Vidarbha and below normal in West Rajasthan, Saurashtra and Kutch and Rayalaseema. It was normal over the rest of the country.

Table I contains the divisional and sub-divisional means of rainfall, temperatures, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,
The 18th August, 1960.

C. RAMASWAMY,
for Director General of Observatories.

"Copyright © 1959 by Manager of Publications, Government of India, Delhi-8".

National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages

Faded or light ink

Binding intrudes into the text

This document has been imaged through the NOAA Environmental Data Rescue Program. To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or www.reference@nodc.noaa.gov.

Information Manufacturing Corporation
Imaging Subcontractor
Rocket Center, West Virginia
September 14, 1999

No.	Period	Course	Region affected	Nature of precipitation	Period	Remarks	
1	2nd-8th	Baluchistan-Punjab (P)—Punjab (I)—Western Himalayas—Eastern Himalayas.	Punjab (I)	Fairly widespread showers	5th		
			Himachal Pradesh	Fairly widespread or local rain/snow.	4th & 5th		
			Jammu & Kashmir	Local rain/snow	4th, 5th, 7th		
			West Uttar Pradesh	Local showers	5th		
			East Rajasthan	Scattered showers	5th		
			Assam	Scattered showers	8th & 9th		
2	17th-24th	Baluchistan-Sind-north Rajasthan-Punjab (I)—Himachal Pradesh—Western Himalayas—Eastern Himalayas.	Rajasthan	Scattered showers	19th & 20th		
			Punjab (I)	Local or scattered showers with snowfall in hills.	19th-21st		
			Himachal Pradesh	Local rain/snow	19th-21st		
			Jammu & Kashmir	Fairly widespread or local rain/snow.	19th-21st		
			Uttar Pradesh	Local or scattered showers	19th-22nd		
			Bihar State	Fairly widespread showers	22nd		A few hailstorms were reported.
				Scattered showers	20th-21st		
			West Bengal	Fairly widespread showers	23rd		
	Local or scattered showers	20th, 21st, 22nd & 24th					
		Assam	Fairly widespread showers	23rd			
			Local or scattered showers	22nd & 24th			
3	21st-26th	Persian Gulf-Gulf of Oman—Baluchistan-Punjab (P)—Punjab (I)—Himachal Pradesh—Kashmir.	Punjab (I)	Scattered showers	25th-26th		
			Himachal Pradesh	Fairly widespread or local rain/snow.	26th & 27th		
			Jammu & Kashmir	Fairly widespread or local rain/snow.	25th and 26th		
3 (a)	24th-28th	Sind-Rajasthan-south Punjab (I)—Uttar Pradesh—Bihar—West Bengal—Assam.	Bihar Plains and Assam.	Local or scattered showers	27th & 28th	Induced by Western disturbance No. 3.	
4	28th-30th	N.W.F.P.—Jammu and Kashmir	Jammu and Kashmir	Local rain/snow	29th		
			Himachal Pradesh and Punjab-Kumaon hills.	Fairly widespread rain/snow	29th, 30th		
			Punjab plains	Fairly widespread showers	29th		
4 (a)	28th-31st	Rajasthan-north Madhya Pradesh—Bihar—West Bengal—Assam.	Rajasthan	Scattered showers	29th, 30th	Induced by western disturbance No. 4.	
			North Madhya Pradesh and plains of Uttar Pradesh.	Fairly widespread or local showers.	29th, 30th		
			Bihar	Fairly widespread or local showers	29th-31st		
			Sub-Himalayan West Bengal.	Fairly widespread showers	29th-31st		
			Gangetic West Bengal.	Fairly widespread or local showers.	29th, 30th		
			Assam	Fairly widespread showers	31st		

Erra to M.W.R. January, 1959 (Pausa 11 - Magha 11, 1880 Saka)

Page No.	Station	Hour	Column	For	Read
----------	---------	------	--------	-----	------

617	(Sale price)			(Not given)	Rs. 7.60 nPs.
-----	--------------	--	--	-------------	---------------

Table I - Division

619	2. West Bengal		8	-0.6	+0.6
-----	----------------	--	---	------	------

Table II

620	Sibsagar		17	5.4	3.4
620	Calcutta		12	-3.1	+12.1
620	Krishnagar		12	+1.6	+11.6
620	Asansol		12	+1.7	+11.7
621	Puri		29	0 (a)	0
621	Gopalpur		12	+26.6	+26.0
621	Muzaffarpur		11	66.6	66.0
621	Gorakhpur		12	+29.5	+29.6
621	Patehpur		14	9	29
621	Patehpur		20 (b)	5	5
621	Kanpur (Aerodrome)		20 (b)	(Blank)	5
621	Lucknow (Amausi Aerodrome)		20 (b)	(Blank)	4
622	Dras		2 to 9	(Blanks)	...,... etc.
622	Leh		8	18.9	-18.9
623	Dholpur		9	13,35	13,15
623	Dohad		19	+4.2	..
624	Rajkot (Aerodrome)		19	+6.4	..
624	Miraj		12	-0.1	-0.3
625	Khammameth		20 (b)	1	0
625	Pamban		3	-1.1	+1.1
625	Raichur		6	18.4	18.7
625	Trivandrum		23	0	1
625	Trivandrum		13	0	0.1
625	Trivandrum		23	1	0
626	Chorrapunji		5	92,30	29,30
626	Dharampore		20 (b)	6	8
626	Bokaro		4	27.7	27.9
627	Katmandu		1	Katmandu	Katmandu*

Table III

628	Long Island	0830	10	26.3	26.8
628	Pasighat	1730	15	(Blank)	0
629	Rangiya	0830	3	..	..
629	Kailashar (C.W.O)	0530	3	..	..
631	Keonjhar	0830	4	1014.6	1017.6
631	Keonjhar	1730	4	1010.3	1013.3
631	Forbesganj	0830	21	13	14
631	Patna (Aerodrome)	0830	17	1	0
632	Gaya	0830	20	2	0
632	Gaya	1130	7	20.7	20.9
634	Hissar	0830	14	-1.5	+1.5
635	Leh	0830	2	0830*	0830
635	Jaipur	1730	24	6	3
635	(Foot note)			Observation for 29 days	*Observations for 29 days

Page No.	Station	Hour	Column	For	Read
----------	---------	------	--------	-----	------

Table III (contd.)

637	Raipur	0530	5	980.5	980.1
637	Jagdapur (P. B. O)	1730	5	960.7	950.7
637	Deesa	0830	7	13.6	13.0
639	Jarnai	0830	4	1004.2	1014.2
639	Parbhani	0830	4	1016.7	1016.9
639	Parbhani	0830	5	968.1	968.3
639	Parbhani	1730	4	1010.8	1011.0
639	Parbhani	1730	5	964.2	964.4
640	Jetr	1730	9	0.3	9.3
641	Mabbubnagar	0830	27	21	2
642	Mathurai (Aerodrome)	0530	3	133	131
642	Kallakurichi	1730	20	32	22
642	Madras	0830	21	(Blank)	0
642	Madras (Nungambakkam)	0830	28	(Blank)	0
642	Karwar	0830	28	(Blank)	0
642	Karwar	1730	28	(Blank)	2
642	Honavar	0830	28	(Blank)	0
642	Honavar	1730	4	1012.2	1010.2
642	Honavar	1730	28	(Blank)	0
643	Gadag (P. B. O)	0530	22	13	12
644	Mukteswar (Kumaon)	1730	7	-7.0	-0.7
644	Simla	0830	6	-0	0
646	Bagra Tawa	0830	19	(Not clear)	2

Page No.	Station	Time in I. S. T.	Ht. in Km.	Entry under column	Existing entry	Correct entry
549	Santa Cruz	-	-	Height of anerometer head amsl. in metres	14	27
650	Agartala	2330	5.4	D	185	285
650	Amausi	0530	0.9	D	226	288
650	Ambala	2330	0.9	V	5.0	5.6
651	Anantapur	2330	0.6	v	27.8	7.8
651	Asansol	1730	2.1	n	31	30
654	Gnikalthana	0530	0.13	V	5.8	5.2
655	Gauhati	0530	-	-	0530	0530*
656	Gopalpur	0530	3.6	V	8.7	8.4
656	Gopalpur	0530	3.6	v	8.4	8.3
658	Jharsuguda	0530	0.6	V	3.4	3.9
660	New Delhi	0530	2.1	D	225	275
660	Poona	0530	5.4	v	23.4	13.4
661	Santa Cruz	0530	3.6	v	18.5	8.5
664	Anantapur	1730	12.0	D	21	271
665	Varavaj	1130	-	-	1130*	1130

TABLE I.—DIVISIONAL AND SUB-DIVISIONAL MEANS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

	Divisional Means				Sub-divisional Means				Division	Sub-divisional Means							
	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %	Cloud	Rainfall (millimetres)	Percentage of normal		Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %	Cloud				
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.	
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Division									Division—contd.								
1. Assam (Including Manipur, Tripura).	27.7	144	22.9	12.0	84	73	3.3	2.7	8. Rajasthan . . .	5.9	80	23.3	8.3	72	40	2.0	1.8
	+8.5	..	-0.3	+1.5	-4	..	+0.1	..		-1.0	..	-0.2	+0.4	+14	..	-0.1	..
2. West Bengal . . .	32.3	288	24.8	13.3	76	61	2.3	1.9	9. Madhya Pradesh	35.2	271	25.5	11.4	72	46	2.6	2.8
	+21.1	..	-0.5	+1.3	+1	..	-0.6	..		+22.2	..	-0.2	+1.5	+8	..	+0.8	..
3. Orissa	22.3	242	27.5	16.3	76	60	1.9	2.7	10. Bombay	2.5	64	29.2	15.2	61	41	1.5	1.6
	+13.1	..	0	+1.5	+2	..	0	..		-1.4	..	+0.2	+1.2	+5	..	+0.1	..
4. Bihar	64.2	399	24.2	11.8	76	62	2.9	2.7	11. Andhra Pradesh .	4.6	53	29.8	18.4	75	53	2.1	1.8
	+48.1	..	+0.1	+2.0	+3	..	+1.2	..		-4.1	..	+0.3	+1.1	+2	..	-0.3	..
5. Uttar Pradesh . .	55.6	257	21.2	9.2	85	64	3.0	2.8	12. Madras State . . .	9.4	25	29.9	21.4	78	58	3.3	2.8
	+34.0	..	-1.2	+1.5	+10	..	+0.9	..		-28.5	..	+0.5	+1.4	-3	..	+0.1	..
6. Punjab (India) (Including Himachal Pradesh and Delhi).*	43.7	149	20.3	7.2	87	61	2.4	2.3	13. Mysore	0	0	30.1	17.6	72	39	1.8	2.0
	+14.3	..	-0.3	+0.9	+13	..	-0.3	..		-3.9	..	+0.5	+1.1	+6	..	-0.2	..
7. Jammu and Kashmir	67.7	72	1.1	-8.0	67	69	5.9	5.1	14. Kerala	0.3	2	32.0	23.1	71	64	2.4	2.6
	-26.9	..	-0.7	-0.1	-5	..	-0.1	..		-16.9	..	+1.0	+0.8	-4	..	+0.1	..
Sub-division									Sub-division—contd.								
1. Bay Islands . . .	0.4	1	30.7	23.1	70	78	3.5	3.7	15. Madhya Pradesh, (West).	39.6	381	25.0	10.6	69	42	2.6	2.6
	-45.1	..	+1.7	+1.1	-1	..	+0.1	..		+29.2	..	-0.5	+1.0	+9	..	+0.8	..
2. Assam (Including Manipur, Tripura).	27.7	144	22.9	12.0	84	73	3.3	2.7	16. Madhya Pradesh, (East).	29.4	181	26.2	12.4	76	52	2.6	3.0
	+8.5	..	-0.3	+1.5	-4	..	+0.1	..		+13.2	..	+0.3	+2.1	+7	..	+0.7	..
3. Sub-Himalayan West Bengal.	50.5	537	22.0	11.7	83	61	3.0	2.1	17. Gujarat	0	0	29.3	12.9	63	31	1.3	1.0
	+41.1	..	-1.6	+1.3	+3	..	+1.8	..		-1.8	..	-0.3	+1.2	+5	..	+0.1	..
4. Gangetic West Bengal.	25.5	213	25.6	13.8	74	61	2.1	1.9	18. Saurashtra and Kutch.	0.4	25	26.9	12.4	59	39	0.8	0.9
	+13.5	..	-0.2	+1.3	+1	..	+0.3	..		-1.2	..	-0.5	+0.3	+4	..	-0.5	..
5. Orissa	22.3	242	27.5	16.3	76	60	1.9	2.7	19. Konkan	0	0	28.9	19.5	71	63	1.6	1.1
	+13.1	..	0	+1.5	+2	..	0	..		-2.9	..	+0.4	+1.0	+1	..	+0.1	..
6. Bihar (Plateau) . .	32.5	175	25.3	12.3	69	57	2.8	2.9	20. Maharashtra . . .	6.0	125	30.8	14.8	59	52	1.5	2.1
	+13.9	..	+0.7	+2.0	0	..	+0.9	..		+1.2	..	+0.8	+1.8	+6	..	+0.1	..
7. Bihar Plains . . .	85.4	589	22.8	11.1	84	67	3.0	2.5	21. Vidarbha	4.2	47	29.5	14.7	67	39	2.4	2.9
	+70.9	..	-0.6	+1.9	+7	..	+1.4	..		-4.7	..	+0.1	+1.3	+8	..	+0.7	..
8. Uttar Pradesh, (East).	57.5	332	21.8	9.7	86	64	3.4	2.7	22. Coastal Andhra Pradesh.	9.3	89	29.5	19.4	78	64	2.5	2.1
	+40.2	..	-1.3	+1.6	+8	..	+1.6	..		-1.1	..	+0.4	+1.0	+1	..	-0.1	..
9. Uttar Pradesh, (West).	53.4	202	20.5	8.6	84	63	2.5	2.9	23. Telangana	0	0	29.4	16.4	73	33	2.0	1.3
	+27.0	..	-1.1	+1.3	+12	..	+0.1	..		-7.7	..	+0.2	+1.3	+5	..	-0.1	..
10. Punjab (India) (Including Delhi)	43.7	149	20.3	7.2	87	61	2.4	2.3	24. Rayalaseema . . .	0	0	31.3	18.9	71	47	1.1	1.3
	+14.3	..	-0.3	+0.9	+13	..	-0.3	..		-6.6	..	+0.1	+1.4	-1	..	-0.9	..
11. Himachal Pradesh	85.1	..	19.3	5.5	97	60	5.3	4.1	25. Madras State . . .	9.4	25	29.9	21.4	78	58	3.3	2.8
	..	..	..	..	..	..	..	..		-28.5	..	+0.5	+1.4	-3	..	+0.1	..
12. Jammu and Kashmir	67.7	72	1.1	-8.0	67	69	5.9	5.1	26. Coastal Mysore	0	0	31.9	21.9	75	61	1.9	1.9
	-26.9	..	-0.7	-0.1	-5	..	-0.1	..		-2.7	..	+0.1	+1.3	+7	..	-0.3	..
13. Rajasthan, (West)	3.5	57	22.6	7.8	73	41	1.9	1.6	27. Interior Mysore, (North)	0	0	30.7	17.0	65	35	1.4	2.1
	-2.6	..	-0.2	+0.9	+14	..	-0.6	..		-4.4	..	+0.8	+0.9	+4	..	-0.1	..
14. Rajasthan, (East)	8.3	108	23.9	8.8	71	39	2.0	2.0	28. Interior Mysore (South)	0	0	28.9	16.7	79	35	2.2	1.9
	+0.6	..	-0.2	0	+14	..	+0.2	..		-4.0	..	+0.3	+1.3	+9	..	-0.3	..
									29. Kerala	0.3	2	32.0	23.1	71	64	2.4	2.6
										-16.9	..	+1.0	+0.8	-4	..	+0.1	..
									30. Arabian Sea Islands.	15.0	32	30.2	23.3	..	..	..	..
										-31.5	..	+0.7	+0.5	..	..	..	..

NOTE.—The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Table with columns for Division and station, Air temperature in °C (Mean maximum, Departure from normal, Highest, Date, Mean minimum, Departure from normal, Lowest, Date), Rainfall in millimetres (Total fall during 0830-1730 hours, Total fall in 24 hours, Departure from normal, Heaviest fall in 24 hours, Date), No. of rainy days (2.5mm or more) (Total in month, Departure from normal), Wind speed km. per hour (Mean between 0830-1730 hours, Mean 24 hours, Departure from normal), and Weather phenomena—No. of days with (Precipitation < 0.3 mm, Precipitation > 0.3 mm, Snow or sleet, Hail, Thunder heard, Fog, Dust-storm, Ground frost, Gale, Squall, Line squall).

(a) Mean of 30 days. (b) Mean of 29 days. (f) Mean of 25 days. (g) Mean of 24 days. (R) Register not received. *Observations for 28 days, †Observations of 22 days.

TABLE III—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA) 627

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed km per hour				Weather phenomena—No. of days with										
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0630-1730 hours	Mean 24 hours.	Departure from normal	Precipitation 0.1 or 0.2 mm.	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20a)	20b)	21	22	23	24	25	26	27	28	29	
Hydrometeorological Observatories Contd.—																														
Ganga Catchment																														
Mukhim	12.7	..	16.1	3	4.1	..	0.3	29,30	4.8	49.6	..	18.3	29	4	..	..	..	..	0	6	0	0	0	0	0	0	0	0	0	0
Tehri	19.7	..	23.3	20	5.5	..	3.2	1,10	8.0	57.9	..	21.5	29	6	..	2.2	1.6	..	0	7	0	0	4	7	0	0	0	0	0	0
Gandak Catchment																														
Gorkha	17.8	..	20.2	7	8.7	..	5.3	31	26.4	54.8	..	21.8	31	3	..	..	..	..	0	3	..	..	..	..	..	..	..	..	..	..
Pokhara	18.9	..	21.4	14	8.2	..	3.9	31	16.0	74.9	..	34.0	30	5	..	..	..	..	0	6	..	..	..	..	..	..	..	..	..	..
Nawakot	19.1	..	21.4	14	9.1	..	7.1	31	18.6	31.9	..	17.3	29	3	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..
Jomosom	12.5	..	17.3	4	..	..	..	..	15.2	60.9	..	45.7	29	2	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..
Timure	15.1	..	18.9	1	3.4	..	1.2	24,31	12.7	35.8	..	21.6	29	3	..	..	..	..	0	3	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																														
Dailekh	15.1	..	17.7	2,3	6.4	..	3.1	31	17.1	59.1	..	32.8	30	3	..	..	..	..	0	8	..	..	..	..	..	..	..	..	..	..
Gogra Catchment Dendeldhura (R)																														
Butwal	21.8	..	24.7	14	11.5	..	6.2	24	8.9	40.1	..	24.1	30	3	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																														
Katinandu	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																														
Chautara	17.6	..	20.5	8	7.0	..	5.2	23	6.8	30.5	..	22.9	29	2	..	..	..	..	0	3	..	..	..	..	..	..	..	..	..	..
Okhaldunga	14.0	..	16.3	29	4.5	..	1.8	31	20.8	33.8	..	13.7	30	3	..	3.3	2.5	..	0	5	0	0	1	6	0	0	0	0	0	0
Barahkshetra	22.3	..	24.7	7	11.4	..	8.8	2	53.5	85.3	..	48.4	31	4	..	7.3	5.3	..	0	6	0	0	1	1	0	0	0	0	0	0
Angbung	18.2	..	20.0	5	8.3	..	5.1	11	54.0	104.0	..	58.0	31	5	..	..	..	..	0	5	..	..	..	..	..	..	..	..	..	..
Taplejung	13.5	..	17.2	5	4.9	..	2.0	31	29.4	70.8	..	22.8	30	5	..	..	..	..	0	5	0	0	0	4	0	7	0	0	0	0
Taplethok	19.5	..	22.3	7	6.3	..	3.9	11,12	5.1	12.2	..	5.3	30	2	..	..	..	..	0	5	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	6.6	..	13.4	4	-2.7	..	-7.6	31	30.7	70.4	..	22.6	30	5	..	..	..	..	0	8	..	..	..	..	..	..	..	..	..	..
Bhojpur	13.8	..	16.4	17	6.4	..	3.9	30	26.4	50.3	..	16.0	29	5	..	..	..	..	0	5	..	..	..	..	..	..	..	..	..	..
Chainpur	17.1	..	19.7	7	8.5	..	4.4	29	8.0	25.0	..	12.0	29	2	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..
Tista Catchment																														
Gangtok	11.6	..	15.1	29	4.2	..	2.0	30	22.3	81.8	..	22.2	31	5	..	3.2	2.2	..	0	9	0	0	1	10	0	0	0	0	0	0
Geyzing	15.1	..	18.6	6	7.9	..	4.4	31	26.6	57.8	..	22.7	30	5	..	..	..	..	0	6	..	..	..	..	..	..	..	..	..	..

(e) Mean of 26 days.

(R) Register not received.

* Data included under Hill stations

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity	Departure from normal	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bay Islands Maya Bandar	0830	23	1015.2	1012.5	..	25.9	23.1	21.7	26.1	77	..	2.4	..	2.7	0	0	14	1	9	1	0	0	1	0	2	17	0
	1730	"	1012.6	1009.8	..	26.1	22.9	21.3	25.7	75	..	2.9	..	5.0	0	0	24	1	22	0	0	0	0	0	1	7	0
Long Island	0830	33	1014.6	1010.8	..	26.3	23.4	22.7	26.3	78	..	3.4	..	0.8	0	0	8	3	1	1	0	0	1	0	2	23	0
	1730	"	1011.8	1003.1	..	26.0	23.4	22.2	26.9	80	..	3.5	..	0.5	0	0	5	0	1	0	0	0	1	2	1	26	0
Port Blair	0530	79	1012.8	1003.8	..	23.5	22.0	21.1	25.3	87	..	3.4	..	6.7	0	0	24	3	14	5	1	0	0	0	1	7	0
	0830	"	1014.7	1005.8	+1.0	27.9	23.8	21.9	26.0	70	-1	3.5	+0.1	8.9	0	0	29	4	16	7	0	0	0	1	1	2	0
Car Nicobar	0830	10	1013.6	1012.4	..	28.4	24.4	22.3	27.7	69	..	3.4	..	6.8	0	0	31	0	15	15	1	0	0	0	0	0	0
	1730	"	1011.0	1009.8	..	27.1	23.8	22.3	26.7	75	..	3.3	..	5.2	0	0	31	0	13	17	1	0	0	0	0	0	0
Nancowry	0830	26	1013.4	1010.5	..	28.7	25.4	23.9	29.7	76	..	5.0	..	0.4	0	0	2	0	0	2	0	0	0	0	0	29	0
	1730	"	1010.8	1007.9	..	27.1	24.5	23.2	28.9	79	..	4.8	..	0.6	0	0	4	0	0	4	0	0	0	0	0	27	0
Kondul	0830	8	1013.7	1012.7	..	27.5	25.0	23.9	29.6	81	..	5.1	..	13.1	0	2	29	0	28	2	1	0	0	0	0	0	0
	1730	"	1011.3	1010.3	..	27.5	25.0	24.0	29.6	80	..	3.9	..	12.3	0	0	31	0	31	0	0	0	0	0	0	0	0
Assam (including Manipur, Tripura) Pasighat	0830	157	1018.6	1000.2	..	15.6	13.1	10.8	13.0	74	..	4.8	..	15.9	0	14	12	10	3	0	0	0	0	0	13	5	0
	1730	"	1015.5	997.1	..	15.6	13.7	12.0	14.0	80	..	4.5	..	6.7	4	12	4	0	0	0	0	1	2	9	15	0	
Digboi	0830	..	..	..	..	14.8	13.7	12.7	14.7	88	..	4.8	..	3.0	0	0	31	1	10	9	5	2	1	2	1	0	0
	1730	..	..	..	..	17.7	15.5	13.7	16.3	33	..	5.1	..	3.0	0	0	30	3	8	6	10	1	0	1	1	0	0
Dibrugarh	0830	106	1018.5	1006.0	-0.1	16.1	14.5	13.2	16.1	83	-8	4.0	-0.1	2.2	0	0	20	4	1	14	1	0	0	0	0	11	0
	1730	"	1014.9	1002.5	..	17.5	15.3	13.5	15.0	78	..	3.0	..	0.7	0	0	6	1	2	3	0	0	0	0	0	25	0
Dibrugarh (Mohanbari Aerodrome)	0230	111	1015.7	1002.5	..	12.0	11.6	11.3	13.1	95	..	3.9	..	0.9	0	0	4	1	3	0	0	0	0	0	0	27	0
	0530	"	1017.5	1003.4	..	11.5	11.3	10.8	13.1	94	..	6.1	..	0.1	0	0	1	0	1	0	0	0	0	0	0	30	0
North Lakhimpur	0830	102	1018.3	1006.3	..	15.7	14.3	13.2	15.1	86	..	3.5	..	4.1	0	0	29	1	2	9	6	2	0	4	5	2	0
	1130	"	1016.3	1004.5	..	20.7	16.1	12.7	14.7	61	..	3.6	..	6.1	0	0	30	0	4	10	9	0	2	1	0	1	4
Sibsagar	0830	97	1019.3	1007.9	+1.0	15.2	14.5	13.6	15.5	89	-4	5.9	-0.5	2.7	0	0	16	4	4	0	3	3	2	0	0	15	0
	1730	"	1015.4	1004.1	..	17.4	16.3	14.9	17.5	82	..	3.7	..	2.2	0	0	14	9	3	0	0	0	0	0	2	17	0
Jorhat	0530	90	1016.0	1005.3	..	11.8	11.7	11.7	13.7	99	..	4.7	..	1.4	0	0	6	2	1	1	0	0	1	0	1	25	0
	0830	"	1018.3	1007.7	..	15.3	14.4	13.7	15.8	91	..	4.8	..	2.7	0	0	14	2	4	1	1	3	1	0	2	17	0
Golaghat	0830	..	..	..	..	15.4	13.9	12.7	14.8	84	..	5.5	..	0.5	0	0	4	0	0	0	4	0	0	0	0	27	0
	*1730	..	..	..	..	20.8	17.2	14.6	16.7	69	..	5.8	..	0.2	0	0	1	0	0	0	1	0	0	0	0	29	0
Gohpur	†0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	†1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tezpur	0830	79	1017.8	1008.5	-1.0	15.7	14.3	13.0	15.3	82	-6	3.7	+1.0	1.4	0	0	12	0	10	1	0	0	1	0	0	19	0
	1730	"	1014.9	1005.7	..	19.1	16.0	13.6	15.8	71	..	2.6	..	0.5	0	0	3	0	2	0	0	0	1	0	0	28	0
Tezpur (P.B.O.)	0230	78	1016.1	1006.8	..	13.1	12.7	12.3	14.5	95	..	2.3	..	1.3	0	0	12	0	9	3	0	0	0	0	0	19	0
	0530	"	1016.7	1007.3	..	12.1	11.8	11.5	13.5	96	..	4.0	..	0.7	0	0	7	1	5	1	0	0	0	0	0	24	0
Majbat	0830	..	..	..	..	16.3	14.6	13.2	15.4	83	..	3.5	..	3.8	0	0	28	3	8	8	5	1	2	0	1	3	0
	1730	"	..	..	..	20.7	16.5	13.2	15.9	63	..	2.9	..	5.1	0	0	30	1	3	11	5	2	6	2	0	1	0
Chaparmukh	0830	66	1019.6	1011.9	..	17.2	15.2	13.6	15.8	80	..	2.8	..	5.4	0	0	20	1	5	0	14	0	0	0	0	11	0
	1730	"	1014.9	1007.3	..	19.5	16.9	15.0	17.3	74	..	4.0	..	0.8	0	0	4	0	2	0	1	0	1	0	0	27	0
Tangla	0830	78	1018.1	1008.3	..	16.2	14.4	12.9	15.0	80	..	2.1	..	0.8	0	0	5	1	0	2	1	0	1	0	0	26	0
	1730	"	1013.9	1005.1	..	18.9	15.8	13.9	15.5	73	..	1.6	..	0.2	0	0	2	0	1	0	0	0	1	0	0	29	0
Gauhati	0830	55	1018.4	1011.9	+0.3	14.6	13.6	12.7	14.4	88	0	2.2	+0.2	1.1	0	0	11	0	6	0	4	0	1	0	0	20	0
	1730	"	1014.5	1008.1	..	20.2	16.6	14.0	16.0	68	..	3.7	..	0.6	0	0	6	0	5	0	0	1	0	0	0	25	0
Gauhati (Bhorjor Aerodrome)	0230	54	1015.6	1009.1	..	12.3	11.9	11.5	12.4	95	..	2.6	..	1.0	0	0	7	0	1	3	0	1	2	0	0	24	0

* Observation for 30 days.

† Data not reliable.

TABLE III.—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cipher above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal	Mean wind speed km. per hour.	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Assam (including Manipur, Tripura) —(Contd.) Gauhati Aerodrome—(contd.)	0530	54	1016.0	1009.5	..	11.3	11.0	10.7	13.0	96	..	2.4	..	1.0	0	0	6	0	2	0	0	3	0	0	1	25	0	
	0830	"	1018.3	1011.9	..	15.5	12.8	10.9	13.0	72	..	3.3	..	1.9	0	0	9	0	4	0	0	1	3	1	0	22	0	
	1130	"	1016.3	1010.0	..	21.2	16.5	13.0	13.3	60	..	2.9	..	5.9	0	0	25	3	12	2	0	0	3	4	1	6	0	
	1730	"	1014.2	1007.9	..	18.2	15.8	13.6	15.5	73	..	4.2	..	2.3	0	0	12	1	5	0	1	0	1	2	2	19	0	
	2330	"	1016.4	1009.9	..	13.7	13.0	12.3	14.6	92	..	2.9	..	2.3	0	0	13	1	4	3	0	1	4	0	0	18	0	
Rangiya	0830	"	..	..	..	16.2	14.5	13.0	15.2	83	..	1.9	..	4.8	0	0	24	1	7	8	5	0	0	2	1	7	0
	1730	"	..	..	..	19.9	16.7	14.7	17.3	73	..	1.8	..	1.7	0	0	9	1	3	3	1	0	1	0	0	22	0
Goalpara	0830	38	1017.9	1013.4	..	14.9	13.5	12.2	14.4	84	..	4.1	..	2.1	0	0	19	0	4	5	3	3	1	3	0	12	0	
	1730	"	1013.6	1009.1	..	21.9	18.0	14.3	17.4	63	..	2.5	..	2.2	0	0	16	1	2	3	2	0	1	5	2	15	0	
Dhubri	0830	35	1018.9	1014.3	+0.6	16.7	15.1	13.6	15.7	81	-3	1.8	+0.1	2.9	0	0	17	0	9	3	0	2	3	0	0	14	0	
	1730	"	1014.9	1010.7	..	18.7	15.8	13.7	15.7	72	..	1.2	..	2.0	0	0	11	1	3	0	5	0	0	0	2	20	0	
Dhubri (Rupsi Aerodrome).	0530	36	1015.0	1010.7	..	11.4	11.1	10.5	13.1	95	..	3.2	..	1.7	0	0	11	0	7	3	1	0	0	0	0	20	0	
	0830	"	1017.3	1013.1	..	15.9	14.4	13.2	15.4	84	..	2.7	..	4.8	0	0	24	1	5	6	6	1	4	1	0	7	0	
	1130	"	1016.1	1011.9	..	20.9	16.5	13.2	15.2	62	..	2.8	..	9.5	0	1	30	2	5	9	8	1	2	2	2	0	0	
	1730	"	1013.6	1009.4	..	17.2	15.4	14.0	16.4	81	..	2.5	..	1.5	0	0	11	0	9	0	0	0	0	1	1	20	0	
Tura	0830	370	1019.1	975.8	..	14.6	12.5	10.6	12.6	79	..	3.6	..	2.8	0	0	24	0	5	12	3	0	3	1	0	7	0	
	1730	"	1014.3	972.1	..	20.7	15.6	11.3	13.3	56	..	5.0	..	3.1	0	0	24	0	2	3	1	4	10	3	1	7	0	
Agartala	0230	16	1014.6	1012.7	..	12.6	11.9	11.3	13.4	92	..	1.1	..	2.5	0	0	12	2	1	3	3	2	0	1	0	19	0	
	0530	"	1014.9	1013.0	..	11.7	11.3	10.8	13.3	95	..	2.1	..	2.1	0	0	12	2	2	1	2	4	1	0	0	19	0	
	0830	"	1017.6	1015.2	..	17.4	15.1	13.2	15.5	77	..	2.5	..	3.7	0	0	21	3	4	1	10	1	0	1	1	10	0	
	1130	"	1015.9	1014.0	..	23.6	17.3	12.5	14.5	51	..	2.5	..	7.1	0	0	27	3	2	1	3	1	4	7	6	4	0	
	1730	"	1013.7	1011.9	..	20.6	16.5	13.2	14.8	65	..	2.3	..	3.6	0	0	21	4	2	1	1	0	3	6	4	10	0	
Kaliashar (C.W.O.)	2330	"	1015.4	1013.5	..	14.4	13.8	12.9	15.3	89	..	0.9	..	1.4	0	0	8	0	1	1	2	2	0	2	0	23	0	
	0530	"	..	..	..	11.8	11.0	10.2	12.4	90	..	1.9	..	1.5	0	0	12	2	0	0	0	10	0	0	0	19	0
	0830	"	..	..	..	15.5	13.9	12.6	14.5	83	..	1.6	..	2.5	0	0	16	3	0	0	1	9	1	1	1	15	0
	1130	"	..	..	..	21.6	17.6	14.7	17.0	67	..	1.9	..	5.2	0	0	22	7	1	0	1	7	0	2	4	9	0
	1730	"	..	..	..	23.4	16.9	11.7	13.6	48	..	1.6	..	1.1	0	0	7	0	1	0	0	5	0	1	0	24	0
Silchar	0830	29	1018.3	1014.8	+0.3	16.8	14.7	13.1	14.7	80	-3	2.0	+0.2	2.0	0	0	21	0	4	8	6	1	2	0	0	10	0	
	1730	"	1014.5	1011.0	..	20.6	16.7	13.8	15.8	66	..	1.7	..	0.3	0	0	3	0	1	1	1	0	0	0	0	28	0	
Silchar (Kumbhigram Aerodrome)	0530	97	1014.7	1003.2	..	12.5	11.7	10.8	13.1	90	..	1.8	..	7.9	0	0	31	2	3	24	1	0	0	1	0	0	0	
	0830	"	1016.8	1005.4	..	16.3	14.2	12.6	14.4	79	..	2.3	..	7.6	0	0	31	0	1	24	5	0	1	0	0	0	0	
	1130	"	1014.6	1003.2	..	22.0	16.5	12.4	13.0	55	..	2.6	..	8.0	0	0	31	0	1	15	7	3	4	0	1	0	0	
	1730	"	1013.0	1001.8	..	19.5	15.8	13.0	15.1	67	..	2.3	..	2.3	0	0	18	6	4	4	1	0	1	2	0	13	0	
Imphal	0530	801	1020.5	926.8	..	5.7	5.5	5.3	8.8	98	..	4.5	..	0.8	0	0	6	0	1	1	0	2	1	1	0	25	0	
	0830	"	1020.8	928.8	..	11.6	10.1	8.7	10.4	83	..	3.9	..	1.9	0	0	18	2	0	1	5	6	1	1	2	13	0	
	1130	"	1015.4	925.9	..	18.7	13.4	9.1	11.5	54	..	2.8	..	8.9	0	6	22	0	0	0	1	15	5	6	0	3	1	
	1730	"	1015.1	925.0	..	15.8	11.9	8.5	11.2	63	..	2.7	..	8.0	0	6	17	0	0	0	0	3	1	17	2	8	0	
	2330	"	1019.4	926.7	..	8.7	8.1	7.5	10.3	92	..	2.0	..	0.8	0	0	5	1	1	0	0	0	1	2	0	26	0	
Haflong	0830	682	1017.4	939.5	..	14.7	11.9	10.2	11.8	74	..	3.0	..	4.8	0	0	29	3	9	0	1	2	14	0	0	2	0	
	1730	"	1013.5	936.3	..	16.3	12.9	10.0	12.2	67	..	3.0	..	7.0	0	0	31	6	0	0	1	4	18	0	2	0	0	
Luding	0830	149	1017.7	1000.0	..	13.6	12.4	11.2	13.5	86	-4	2.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	1730	"	1014.1	996.8	..	19.6	16.2	13.8	15.3	71	..	4.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Sub-Himalayan West Bengal Cooch-Bihar (C.W.O.)	0830	43	1018.4	1013.1	..	15.2	13.9	12.6	14.7	86	..	3.1	..	5.6	0	2	19	0	9	10	1	0	1	0	0	10	0	
	1130	"	1016.9	1011.8	..	20.5	16.2	13.0	15.2	63	..	3.1	..	7.3	0	1	24	1	5	8	3	2	2	3	1	6	0	
	1730	"	1014.6	1009.4	..	18.0	15.4	13.4	15.6	75	..	2.2	..	0.3	0	0	3	0	2	1	0	0	0	0	0	0	28	0
Jalpaiguri	0830	83	1018.6	1008.6	+0.8	12.9	12.2	11.4	13.4	91	+5	2.8	+1.4	2.8	0	0	22	13	5	1	0	0	0	1	2	9	0	
	1730	"	1014.5	1004.8	..	20.5	15.7	11.9	14.1	59	..	1.6	..	4.3	0	0	22	1	2	4	2	1	9	3	0	9	0	
Bagdogra	0230	131	1015.0	999.1	..	13.3	12.2	11.2	13.3	88	..	3.2	..	2.5	0	0	13	9	2	1	0	0	0	1	0	18	0	
	0530	"	1015.5	999.8	..	10.9	10.6	10.3	12.6	96	..	3.3	..	2.5	0	0	18	16	1	0	0	0	0	0	1	13	0	
	0830	"	1017.9	1002.4	..	15.4	14.1	13.0	14.9	85	..	4.1	..	2.6	0	0	15	3	4	6	1	0	1	0	0	16	0	

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars.			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Clos amount pO (ktas)		Mean wind speed in km per hour	Wind speed (km. p. h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure normal		62 or more	20 to 61	1 to 19	Wind direction.									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Gangetic West Bengal—(contd.) Dum dum—(contd.)	0830	6	1017.6	1016.8	..	18.1	16.1	14.6	16.8	81	..	2.4	..	5.1	0	0	25	8	7	1	3	2	0	0	4	6	0
	1130	"	1016.4	1015.6	..	23.9	19.0	15.7	18.5	61	..	2.8	..	6.3	0	0	30	7	5	3	3	4	1	1	6	1	0
	1730	"	1013.9	1013.1	..	23.2	19.0	16.2	18.6	65	..	2.6	..	2.0	0	0	15	7	0	0	1	2	0	2	3	16	0
	2330	"	1015.7	1014.9	..	16.2	15.4	14.8	16.8	92	..	1.1	..	3.2	0	0	16	4	5	0	1	3	1	0	2	15	0
Calcutta	0830	6	1017.2	1016.5	-0.2	18.5	16.0	14.1	16.2	77	-5	2.0	+0.2	3.4	0	0	20	4	9	3	2	0	0	0	2	11	0
	1130	"	1016.0	1015.3	..	24.5	18.0	13.1	16.3	51	..	2.1	..	7.9	0	0	30	3	8	2	3	1	3	3	7	1	0
	1730	"	1013.6	1012.8	..	23.1	18.0	14.4	16.7	56	..	2.0	..	2.2	0	0	17	4	2	0	1	2	3	0	5	14	0
Barrackpore	0530	7	1015.2	1014.4	..	14.0	13.4	12.9	15.0	94	..	2.0	..	1.9	0	0	8	0	1	2	0	0	1	0	4	23	0
	0830	"	1017.6	1016.8	..	18.3	16.0	14.2	16.5	78	..	3.7	..	2.5	0	0	14	3	2	4	1	1	0	0	3	17	0
	1130	"	1016.5	1015.7	..	23.6	18.3	14.4	17.5	57	..	2.4	..	6.4	0	1	21	6	1	2	1	1	2	4	5	9	0
	1730	"	1013.9	1013.1	..	21.7	17.9	15.2	17.9	68	..	2.2	..	1.5	0	0	9	3	1	0	1	1	0	0	3	22	0
Saugor Island	0830	3	1016.6	1016.3	-0.5	20.6	18.2	16.7	19.4	78	-2	2.2	0	11.1	0	2	28	12	10	0	1	2	1	1	3	1	0
	1730	"	1013.5	1013.2	..	22.9	19.3	16.6	19.5	75	..	2.5	..	11.5	0	0	30	6	1	0	6	9	4	0	4	1	0
Sandheads	0530	10	1014.7	1013.6	..	22.7	19.7	17.7	20.4	74	..	1.5	..	8.3	0	3	22	9	4	0	0	3	4	5	0	6	0
	0830	"	1017.1	1016.0	-0.1	23.6	19.9	17.4	20.5	69	+6	2.5	+0.7	9.7	0	6	21	9	4	0	0	2	6	5	1	4	0
	1130	"	1016.2	1015.1	..	24.6	20.3	17.5	20.6	65	..	2.5	..	9.8	0	6	21	8	5	0	0	3	9	1	1	4	0
	1730	"	1014.2	1013.1	..	24.4	20.1	17.4	19.8	65	..	1.8	..	6.0	0	1	23	5	4	3	3	4	2	2	1	7	0
	2330	"	1015.0	1013.9	..	22.9	19.7	17.4	20.1	71	..	1.3	..	6.3	0	0	24	3	3	2	2	7	7	0	0	7	0
Contai	0830	11	1017.1	1015.9	..	20.4	17.5	15.2	17.4	73	..	0.9	..	2.6	0	0	23	12	1	3	2	2	0	2	1	8	0
	1730	"	1013.6	1012.4	..	22.7	19.1	16.4	19.2	68	..	1.1	..	3.3	0	0	24	4	0	0	3	14	2	1	0	7	0
Midnapore	0830	45	1017.9	1012.6	+0.4	20.0	15.9	12.4	14.6	63	-1	1.5	-0.3	4.5	0	0	24	7	11	2	0	2	1	0	1	7	0
	1730	"	1013.5	1008.3	..	24.5	17.9	13.1	15.7	50	..	1.3	..	2.0	0	0	18	7	7	1	1	1	1	0	0	13	0
Purulia	0830	255	1018.6	988.8	..	17.5	14.0	10.9	13.0	66	..	2.4	..	2.5	0	0	19	0	0	0	2	2	1	4	10	12	0
	1730	"	1014.0	985.0	..	22.3	16.7	12.6	14.6	55	..	2.9	..	1.5	0	0	14	2	1	0	3	1	1	2	4	17	0
Burdwan	0830	32	1018.1	1014.3	+0.5	18.3	14.4	11.0	13.3	62	-8	2.3	+0.5	1.7	0	0	11	3	0	0	0	2	5	0	1	20	0
	1730	"	1014.7	1010.9	..	22.9	17.8	13.6	16.5	57	..	2.1	..	1.5	0	0	8	4	0	0	0	2	1	1	0	23	0
Krishnagar	0830	15	1017.9	1016.2	+0.5	17.5	14.8	12.7	14.4	74	+1	1.4	+0.1	1.7	0	0	16	6	3	3	0	0	0	2	2	15	0
	1730	"	1014.2	1012.5	..	22.5	17.3	13.8	15.3	58	..	1.0	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Asansol	0230	126	1015.5	1000.6	..	15.1	14.3	13.6	15.6	93	..	2.2	..	1.1	0	0	6	1	0	1	0	1	0	0	3	25	0
	0530	"	1015.8	1000.9	..	14.2	13.6	13.1	15.2	94	..	2.5	..	0.8	0	0	7	0	0	1	1	0	0	0	5	24	0
	0830	"	1017.9	1003.1	+0.4	17.3	15.6	14.3	16.4	83	+17	2.5	+0.6	3.7	0	0	21	3	2	2	1	0	0	1	12	10	0
	1130	"	1016.7	1002.2	..	22.3	18.3	15.4	18.0	66	..	2.8	..	6.5	0	0	24	2	2	0	5	0	0	0	15	7	0
	1730	"	1013.9	999.3	..	22.1	18.5	14.5	18.4	69	..	2.4	..	2.5	0	0	9	0	1	1	1	1	0	0	5	22	0
Suri	0830	77	1018.1	1009.1	..	18.1	14.2	10.7	13.1	64	..	2.1	..	7.3	0	0	31	6	6	2	1	0	2	6	8	0	0
	1730	"	1014.7	1005.8	..	22.0	16.0	11.1	13.1	52	..	2.7	..	3.8	0	0	23	3	3	3	1	0	1	5	7	8	0
Berhampore	0830	19	1017.6	1015.3	-0.2	15.8	13.8	12.1	14.3	79	+2	2.5	+0.7	0.4	0	0	2	0	0	2	0	0	0	0	0	29	0
	1730	"	1013.6	1011.4	..	21.7	16.6	12.9	15.6	58	..	1.7	..	0.2	0	0	1	1	0	0	0	0	0	0	0	30	0
Orissa Baripada	0830	54	1018.3	1011.9	..	18.3	15.3	13.0	14.9	72	..	2.8	..	2.1	0	0	19	4	0	1	3	1	2	0	8	12	0
	1730	"	1014.3	1008.0	..	23.8	18.4	14.7	17.1	58	..	1.6	..	1.3	0	0	10	1	1	2	3	2	0	0	1	21	0
Balasore	0830	20	1017.3	1015.0	-0.2	20.9	17.1	14.4	16.3	67	-5	2.7	+0.9	5.9	0	0	29	18	5	0	0	4	2	0	0	2	0
	1730	"	1013.7	1011.4	..	22.6	18.9	16.5	19.1	69	..	2.5	..	2.9	0	0	16	1	2	0	10	3	0	0	0	15	0
Chandbali	0830	6	1017.4	1016.7	-0.1	20.6	18.8	17.9	21.3	83	+8	0.8	-1.0	3.6	0	0	20	8	1	0	0	1	2	2	6	11	0
	1730	"	1013.5	1012.8	..	23.8	20.3	18.0	20.8	70	..	1.7	..	4.2	0	0	28	0	7	4	13	3	1	0	0	3	0
Cutrack	0830	27	1017.2	1014.1	-0.3	19.2	17.8	16.8	19.3	87	+9	1.7	-0.3	0.3	0	0	1	0	0	0	0	0	0	0	0	31	0
	1730	"	1013.6	1010.6	..	25.8	19.8	16.1	18.8	55	..	1.3	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Bhubaneswar	0230	46	1014.7	1009.2	..	18.4	17.2	16.3	18.9	88	..	1.1	..	3.6	0	0	24	5	4	0	0	1	4	10	0	7	0
	0530	"	1015.0	1009.5	..	17.2	16.3	15.4	18.0	80	..	1.0	..	4.5	0	0	29	10	6	0	0	0	3	6	4	2	0
	0830	"	1017.4	1011.9	..	20.9	18.1	16.1	18.6	74	..	1.7	..	5.4	0	0	29	6	8	3	0	1	3	6	2	2	0
	1130	"	1016.4	1011.0	..	26.0	19.5	15.5	17.6	53	..	2.3	..	10.5	0	3	28	4	6	1	2	5	6	7	0	0	0
	1730	"	1013.7	1008.4	..	25.3	19.4	15.																			

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer eastern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed, (km.p.h.)			No. of observations											
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mb.			Mean amount	Departure from normal	Mean wind speed, km per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Orissa—(Contd.)																												
Gopalpur—(Contd.)	1730	17	1014.0	1012.0	..	24.5	20.4	17.8	21.2	67	..	1.7	..	13.4	0	7	23	0	1	6	9	10	4	0	0	1	0	0
	2330	"	1015.8	1013.8	..	20.9	19.0	17.6	20.4	82	..	1.3	..	5.9	0	1	22	3	0	0	1	2	5	5	7	8	0	0
Koraput	0830	913	1544.1	915.2	..	18.1	14.7	12.1	14.1	68	..	1.3	..	3.3	0	0	31	0	1	1	6	3	18	1	1	0	0	0
	1730	"	1528.3	912.8	..	22.8	15.6	10.1	12.5	46	..	1.2	..	3.4	0	0	31	6	1	1	8	0	1	2	12	0	0	0
Titilagarh	0830	211	1017.3	992.8	..	18.9	15.9	13.7	16.2	73	..	1.5	..	1.9	0	0	17	0	1	3	6	4	1	1	1	14	0	0
	1730	"	1012.6	988.9	..	26.5	19.0	13.9	15.9	47	..	1.0	..	2.9	0	0	28	12	14	1	1	0	0	0	0	3	0	0
Bolangir	0830	190	1016.9	994.6	..	18.1	15.5	13.2	15.7	74	..	2.4	..	4.8	0	0	31	9	4	3	3	4	4	0	4	0	0	0
	1730	"	1013.3	991.9	..	25.9	18.3	12.8	15.9	45	..	2.7	..	3.9	0	0	31	12	6	1	2	2	3	1	4	0	0	0
Angul	0830	139	1018.0	1001.7	+0.5	18.4	16.1	14.4	16.6	78	+5	1.9	-0.4	2.1	0	0	19	2	2	1	1	0	4	6	3	12	0	0
	1730	"	1013.4	997.6	..	25.9	18.3	12.7	15.2	45	..	2.9	..	3.6	0	0	26	2	7	0	7	2	3	2	2	5	1	0
Keonjhar	0830	463	1014.6	961.9	..	18.7	15.2	12.3	14.3	67	..	1.3	..	2.3	0	0	21	6	3	1	2	0	0	5	4	10	0	0
	1730	"	1010.3	958.5	..	23.0	16.7	12.1	13.7	51	..	2.5	..	3.3	0	0	31	3	4	4	1	2	5	9	3	0	0	0
Sambalpur	0830	143	1017.5	1000.3	0	19.4	16.1	13.7	15.6	71	0	1.7	0	1.2	0	0	10	1	4	3	1	1	0	0	0	21	0	0
	1730	"	1013.3	996.4	..	25.4	17.8	13.2	14.5	48	..	1.7	..	1.7	0	0	13	5	1	0	1	3	1	0	2	18	0	0
Jharsuguda	0230	230	1014.9	998.0	..	15.5	14.1	13.0	15.0	85	..	1.4	..	1.7	0	0	7	4	2	0	0	0	1	0	0	24	0	0
	0530	"	1015.3	988.2	..	14.1	13.3	12.6	14.6	92	..	1.2	..	4.3	0	0	19	8	5	2	1	0	1	0	2	12	0	0
	0830	"	1017.6	990.8	..	17.8	15.1	13.0	14.9	74	..	2.2	..	4.5	0	0	24	10	7	1	3	1	1	1	0	7	0	0
	1130	"	1016.0	989.8	..	24.5	17.4	11.7	14.5	46	..	2.1	..	4.7	0	6	25	5	3	1	1	6	4	3	2	6	0	0
	1730	"	1013.1	987.0	..	23.6	17.4	12.7	15.0	51	..	2.0	..	3.3	0	0	20	2	0	0	1	12	2	3	0	11	0	0
	2330	"	1015.5	988.7	..	17.7	15.3	13.3	15.2	75	..	1.6	..	3.5	0	0	15	2	4	2	3	0	1	2	1	16	0	0
Bihar Plateau— Jamshedpur	0830	129	1017.8	1002.7	-0.1	17.0	14.5	12.6	14.5	75	+1	1.7	-0.2	3.5	0	0	22	0	2	5	0	0	0	12	3	9	0	0
	1730	"	1013.3	998.5	..	23.8	17.7	13.4	15.3	53	..	2.6	..	4.1	0	0	25	3	4	7	2	0	2	2	5	6	0	0
Jamshedpur (P.B.O.)	0530	145	1015.5	998.4	..	14.7	13.4	12.3	14.2	86	..	2.5	..	2.1	0	0	15	1	1	2	1	1	3	2	4	16	0	0
	0830	"	1017.6	1000.6	..	18.4	15.0	12.1	14.5	66	..	2.8	..	2.8	0	0	17	2	1	4	0	0	4	3	3	14	0	0
	1130	"	1016.4	999.7	..	23.8	16.9	11.3	14.9	46	..	3.1	..	5.2	0	0	31	3	4	1	2	2	7	6	6	0	0	0
	1730	"	1013.4	996.7	..	23.8	17.3	12.3	14.7	50	..	3.5	..	3.3	0	0	19	2	5	3	1	0	3	0	5	12	0	0
	2330	"	1015.8	998.8	..	17.8	15.5	13.7	16.5	78	..	2.4	..	3.6	0	1	20	4	2	3	1	0	3	3	5	10	0	0
Chaibasa	0830	226	1018.0	991.6	+0.5	17.7	14.6	11.7	14.2	69	-7	2.4	+0.4	0.8	0	0	8	0	2	0	1	0	4	1	0	23	0	0
	1730	"	1013.4	987.6	..	23.6	17.1	12.1	13.8	51	..	3.2	..	0.5	0	0	5	0	3	0	0	0	1	0	1	26	0	0
Ranchi	0830	655	1015.9	941.8	-0.6	18.1	13.7	11.6	13.0	59	0	2.9	+0.8	1.5	0	0	11	3	1	2	1	1	1	0	2	20	0	0
	1730	"	1013.9	940.3	..	19.6	14.7	10.7	13.0	59	..	3.0	..	0.1	0	0	1	0	1	0	0	0	0	0	0	30	0	0
Ranchi (C.W.O.)	0530	652	1016.1	940.8	..	11.9	10.7	9.6	12.2	87	..	2.0	..	1.8	0	0	8	3	1	1	0	0	0	0	3	23	0	0
	0830	"	1017.4	943.1	..	16.0	12.9	10.1	12.7	69	..	3.1	..	3.1	0	0	17	4	5	0	0	3	0	3	2	14	0	0
	1130	"	1015.5	942.5	..	20.9	15.2	10.7	12.9	54	..	3.5	..	7.7	0	0	27	5	2	0	0	10	3	3	4	4	0	0
	1730	"	1013.2	939.8	..	19.1	14.7	10.9	13.4	62	..	3.8	..	4.1	0	0	20	8	1	0	0	2	1	5	3	6	0	0
Daltonganj	0830	221	1018.4	992.5	+0.1	16.3	14.0	12.0	14.3	76	-4	3.6	+2.0	1.8	0	0	17	3	1	7	1	1	2	2	0	14	0	0
	1730	"	1014.3	988.7	..	20.2	16.4	13.3	15.4	66	..	2.5	..	1.4	0	0	10	0	4	0	0	0	1	2	3	21	0	0
Hazaribagh	0830	611	1017.8	947.7	+0.2	15.5	12.6	10.0	12.7	71	+11	3.1	+1.2	3.3	0	0	20	4	1	0	3	3	1	1	7	11	0	0
	1730	"	1013.8	944.9	..	19.1	14.5	10.8	12.9	59	..	3.0	..	5.3	0	0	27	6	0	1	3	0	0	0	17	4	0	0
Dhanbad	0830	257	1017.4	987.4	..	17.6	14.5	12.0	14.6	70	..	3.4	..	3.4	0	0	30	7	3	3	1	4	0	11	1	1	0	0
	1730	"	1013.4	984.0	..	21.8	16.9	13.2	15.1	59	..	3.2	..	2.8	0	0	21	5	1	3	1	0	0	6	5	10	0	0
Dumka	0830	149	1018.4	1001.0	+0.6	18.1	14.4	11.0	13.4	64	-2	2.9	+1.5	2.5	0	0	27	5	0	2	2	1	1	4	12	4	0	0
	1730	"	1013.9	996.7	..	20.9	16.0	11.1	14.2	55	..	2.8	..	3.2	0	0	22	5	2	2	1	0	1	4	7	9	0	0
Bihar Plains— Purnea	0830	38	1018.5	1014.0	+0.6	15.0	13.4	11.9	14.0	82	-3	2.0	+0.6	2.9	0	0	23	4	4	3	1	0	4	7	0	8	0	0
	1730	"	1014.3	1009.9	..	18.4	15.5	13.3	15.0	72	..	1.2	..	0.9	0	0	6	0	2	1	0	0	0	3	0	25	0	0
Forbesganj	0830	61	1018.0	1010.7	..	13.3	12.6	11.9	13.9	91	..	3.6	..	3.9	0	0	27	4	0	13	1	0	0	7	1	4	0	0
	1730	"	1014.2	1007.1	..	20.0	16.3	13.5	15.5	67	..	2.3	..	3.0	0	0	20	0	0	4	0	3	0	13	0	11	0	0
Darbhanga	0830	49	1018.6	1012.7	+0.8	14.6	13.2	11.9	14.1	85	+3	2.5	+0.9	2.5	0</													

Region and station	Hour of observation I.S.T.	Height of barometer at mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p. h.)			No. of observations									
			At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Mean amount				Departure from normal	62 or more		20 to 61	1 to 19	Wind direction										
																	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bihar Plains—(Contd.) Dehri	0830	107	1018.1	1005.4	..	15.9	13.9	12.1	14.4	79	..	3.5	..	2.8	0	0	29	1	6	4	3	9	3	2	2	0	
	1730	"	1013.7	1001.3	..	21.3	16.1	11.5	14.0	55	..	2.6	..	2.9	0	0	28	3	4	2	1	0	1	11	6	3	0
Gaya	0230	116	1016.1	1002.2	..	13.0	12.0	10.9	13.0	87	..	2.1	..	5.3	0	0	27	1	0	5	4	8	4	3	2	4	0
	0530	"	1016.2	1002.3	..	12.0	11.3	10.5	13.1	91	..	1.9	..	4.7	0	0	25	1	4	0	5	7	5	2	1	6	0
	0830	"	1018.4	1004.6	+0.4	15.0	13.3	11.6	14.0	81	+18	3.5	+1.8	4.9	0	0	27	1	2	2	2	7	9	5	1	4	0
	1130	"	1017.6	1004.0	..	20.7	15.6	10.9	13.5	55	..	2.5	..	10.5	0	4	26	3	4	4	3	1	3	4	8	1	0
	1730	"	1014.7	1001.2	..	20.2	15.6	11.6	13.8	59	..	2.9	..	7.5	0	2	24	7	4	5	0	0	0	0	10	5	0
Jamui	0830	82	1018.3	1008.4	..	14.6	13.2	12.0	14.1	85	..	3.2	..	3.0	0	0	21	0	0	12	3	0	0	0	7	10	0
	1730	"	1014.5	1004.8	..	20.2	16.3	13.3	15.4	66	..	2.9	..	3.5	0	0	22	0	0	2	1	0	0	4	15	9	0
Bhagalpur	0530	49	1015.9	1010.2	..	13.2	12.4	11.6	13.7	90	..	2.5	..	6.1	0	1	22	0	1	2	2	6	5	6	1	8	0
	0830	"	1018.3	1012.6	..	14.5	13.2	12.0	15.0	86	..	3.0	..	4.8	0	1	18	0	1	1	2	1	4	6	4	12	0
	1130	"	1017.5	1011.8	..	19.5	15.7	12.8	15.2	66	..	3.3	..	8.4	0	4	24	1	1	4	3	0	1	9	9	3	0
	1730	"	1014.8	1009.1	..	19.4	16.0	13.4	15.6	69	..	2.5	..	5.9	0	0	25	0	1	2	0	0	2	13	7	6	0
Sabour	0830	37	1018.1	1013.6	0	14.7	13.8	12.9	15.2	91	+9	3.6	+1.8	2.4	0	0	20	2	1	2	2	0	0	8	4	11	1
	1730	"	1014.3	1009.8	..	19.4	16.7	14.6	16.7	75	..	3.0	..	2.3	0	0	17	2	0	3	0	0	0	6	6	14	0
Uttar Pradesh (East) Gonda	0830	110	1018.0	1004.9	..	12.4	11.4	10.4	12.3	88	+8	2.6	+0.3	1.3	0	0	10	1	0	5	1	0	0	0	3	21	0
Nautanwa	0830	99	1018.3	1006.4	..	11.4	11.1	10.6	12.8	98	..	3.3	..	2.2	0	0	15	1	0	5	5	0	2	1	1	16	0
	1730	"	1014.9	1003.2	..	18.6	15.1	12.2	13.8	66	..	2.7	..	2.6	0	0	18	0	2	1	2	2	6	5	0	13	0
Gorakhpur	0830	77	1018.3	1009.1	+0.9	14.2	12.5	10.7	13.1	81	+2	3.1	+1.7	2.2	0	0	21	0	0	3	0	0	1	17	0	10	0
	1730	"	1014.3	1005.2	..	19.5	15.2	12.2	14.0	64	..	2.3	..	1.7	0	0	17	0	0	1	0	0	4	12	0	14	0
Gorakhpur (P.B.O.)	0230	78	1015.4	1006.1	..	12.4	11.6	10.8	12.8	90	..	1.9	..	5.0	0	1	23	6	2	1	0	2	4	6	3	7	0
	0530	"	1015.4	1006.0	..	11.4	10.8	10.1	12.3	93	..	1.4	..	4.5	0	1	21	5	3	1	1	1	3	6	2	9	0
	1130	"	1017.4	1008.3	..	19.7	15.9	12.9	14.5	65	..	3.2	..	6.9	0	1	29	0	2	3	5	7	6	4	3	1	0
	2330	"	1016.1	1006.8	..	13.6	12.6	11.4	13.3	87	..	1.7	..	4.3	0	1	22	6	1	3	0	0	7	4	2	8	0
Azamgarh	0830	78	1017.4	1008.2	..	12.4	11.9	11.3	13.3	94	..	2.0	..	..	0	0	28	0	0	6	0	0	0	22	0	3	0
	1730	"	1014.4	1005.3	..	18.9	16.4	14.2	16.6	75	..	1.7	..	..	0	0	5	0	0	3	0	0	0	2	0	26	0
Ballia	0830	64	1018.3	1010.6	..	12.3	11.3	10.3	12.3	87	..	2.2	..	1.6	0	0	14	0	4	0	1	0	2	3	4	17	0
	1730	"	1016.2	1008.7	..	21.7	16.0	11.3	13.8	54	..	1.5	..	4.7	0	0	23	1	5	0	2	0	2	2	11	8	0
Varanasi (Banaras)	0830	76	1017.8	1008.6	-0.2	14.0	13.0	12.3	13.9	89	+11	3.0	+1.4	4.8	0	0	20	1	1	5	0	4	5	4	0	11	0
	1730	"	1014.4	1005.6	..	20.0	16.2	13.0	15.2	65	..	2.7	..	4.5	0	0	22	5	2	2	0	0	5	8	0	9	0
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1016.9	1006.6	..	10.6	10.3	9.9	12.3	96	..	2.2	..	3.5	0	1	19	0	2	3	1	5	5	3	1	11	0
	0830	"	1019.3	1009.0	..	13.2	12.3	11.4	13.8	89	..	3.5	..	6.2	0	0	26	1	1	4	1	3	10	6	0	5	0
	1130	"	1018.6	1008.6	..	19.6	15.7	12.4	14.5	65	..	3.2	..	10.1	0	0	29	1	2	4	5	1	5	7	4	2	0
	1730	"	1015.8	1005.8	..	19.8	16.0	12.9	14.5	66	..	2.7	..	5.7	0	0	26	0	6	3	0	1	1	10	5	5	0
	2330	"	1017.5	1007.2	..	13.1	12.0	11.6	12.8	91	..	1.9	..	4.5	0	0	25	2	4	6	1	1	3	6	2	6	0
Allahabad (Bamrauli)	0230	98	1015.8	1004.1	..	12.4	11.5	10.4	12.8	89	..	2.5	..	3.3	0	0	17	2	4	2	2	3	3	1	0	14	0
	0530	"	1016.1	1004.2	..	11.3	10.5	9.8	11.8	91	..	1.9	..	3.3	0	0	18	3	3	2	1	0	4	5	0	13	0
	0830	"	1018.2	1006.5	+0.1	13.5	12.0	10.5	12.9	81	+1	3.5	+1.2	5.1	0	0	24	1	1	5	0	1	7	8	1	7	0
	1130	"	1017.9	1006.4	..	19.9	15.3	11.3	14.1	60	..	3.7	..	7.4	0	0	29	4	5	3	2	2	0	9	4	2	0
	1730	"	1014.7	1003.2	..	19.9	16.0	12.0	15.2	62	..	2.8	..	4.4	0	0	24	4	4	4	0	1	0	5	6	7	0
	2330	"	1016.6	1004.9	..	14.2	12.6	11.3	12.9	84	..	2.6	..	2.7	0	0	15	1	3	1	0	1	1	4	4	16	0
Sultanpur (*)	0830	97	..	..	..	13.4	12.1	10.9	12.9	84	..	3.7	..	3.6	0	0	19	0	3	3	0	0	5	6	2	9	0
	1730	"	..	..	..	19.0	15.0	11.7	13.9	63	..	3.4	..	2.3	0	0	13	0	2	1	1	0	1	5	3	15	0
Faizabad (†)	0830	102	..	..	..	12.4	11.6	10.8	12.8	90	..	4.5	..	3.4	0	0	18	2	0	0	6	0	3	5	1	4	1
	1730	"	..	..	..	18.5	15.3	13.0	14.4	71	..	3.2	..	3.0	0	0	11	0	3	0	1	0	2	4	1	11	0
Banda	0830	121	1018.3	1003.8	..	14.4	12.8	11.3	13.4	83	..	4.0	..	0.8	0	0	6	0	1	2	2	0	0	0	1	25	0
	1730	"	1014.6	1000.5	..	20.1	16.1	13.1	15.2	68	..	3.1	..	0.2	0	0	1	0	1	0	0	0	0	0	0	30	0
Fatehpur	0830	114	1018.1	1004.4	..	12.6	11.5	10.3	12.3	87	+18	3.0	+1.1	2.8	0	0	18	0	2	4	2	0	2	5	3	13	0
	1730	"	1014.5	1001.1	..	19.3	15.4	12.2	14.5	65	..	2.9	..	2.5	0	0	16	0	2	3	0	0	1	4	6	15	0
Kanpur	0830	126	1018.5	1003.3	+0.5	11.8	10.7	9.5	11.9	87	+9	3.9	+2.6	6.9	0	0	26	3	0	7	1	1	6	6			

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	loud amount (Oktas)			Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in f.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Uttar Pradesh (East) Lucknow	0930	113	1018.3	1005.0	+0.8	12.0	10.8	9.4	11.9	85	+7	3.5	+1.5	2.9	0	0	23	2	0	7	0	0	0	14	0	8	0	
	1730	"	1015.1	1002.1	..	18.9	14.7	11.0	11.3	62	..	2.1	..	3.6	0	0	27	2	0	4	0	2	0	19	0	4	0	
Lucknow (Amausi Aerodrome)	0230	128	1015.9	1000.5	..	10.5	9.9	9.2	11.8	92	..	2.0	..	4.3	0	1	20	0	1	5	1	1	1	6	6	10	0	
	0530	"	1015.6	1000.1	..	9.9	9.3	8.6	11.4	92	..	2.4	..	5.1	0	1	21	1	1	5	2	0	3	5	5	9	0	
	0830	"	1017.5	1002.5	-0.1	12.1	11.1	10.5	12.8	89	+12	3.7	+1.9	5.8	0	1	21	2	0	3	5	0	1	4	7	9	0	
	1130	"	1017.7	1002.8	..	18.0	14.1	10.3	12.7	63	..	3.1	..	10.5	0	3	25	3	2	2	6	0	1	6	8	3	0	
	1730	"	1014.3	999.6	..	18.1	14.3	11.1	12.7	65	..	2.8	..	6.1	0	1	27	3	1	4	3	1	1	10	5	3	0	
Hardoi	0830	142	1017.9	1000.7	..	10.6	9.9	9.3	11.8	92	..	2.5	..	3.9	0	0	24	2	1	5	2	0	1	7	6	7	0	
	1730	"	1014.6	998.0	..	18.4	14.8	11.7	13.8	66	..	2.5	..	3.1	0	0	16	1	0	3	1	1	1	9	0	15	0	
Lakhimpur. Kheri	0830	147	1017.3	999.5	..	10.5	9.9	9.4	11.8	94	..	2.2	..	0.8	0	0	8	0	3	1	0	0	0	3	1	23	0	
	1730	"	1014.1	997.0	..	17.9	14.8	12.3	14.3	69	..	3.3	..	0.9	0	0	8	0	1	1	0	0	0	6	0	23	0	
Bahraich	0830	124	1017.7	1002.9	+0.4	12.5	11.5	10.4	12.3	87	+6	4.6	+3.1	4.0	0	0	25	1	2	6	3	1	0	10	2	6	0	
	1730	"	1014.9	1000.4	..	18.3	14.6	11.6	13.8	66	..	3.4	..	3.2	0	0	27	0	1	7	0	0	1	18	0	4	0	
Uttar Pradesh (West) Orai	0830	141	1018.7	1002.6	..	15.4	12.7	10.0	12.5	73	..	3.8	..	3.4	0	0	25	2	0	5	1	0	2	0	15	6	0	
Jhansi	0830	251	1018.4	988.6	-0.3	13.0	11.6	10.1	12.4	86	+24	2.4	+0.7	2.0	0	0	15	4	3	1	0	1	0	0	6	16	0	
	1730	"	1014.1	985.4	..	21.5	17.0	13.3	16.1	62	..	2.6	..	2.9	0	0	25	9	6	6	1	1	1	0	1	6	0	
Agra	0830	169	1018.7	998.4	+0.3	11.3	10.1	8.5	11.2	83	+19	3.1	+0.9	0.8	0	0	8	0	1	0	1	0	2	0	4	23	0	
	1730	"	1015.0	995.4	..	19.8	14.5	9.4	12.2	54	..	2.5	..	1.3	0	0	12	2	2	0	1	0	3	1	3	19	0	
Agra (Acrodrome)	0530	168	1016.4	996.1	..	9.3	8.7	8.1	10.9	92	..	2.6	..	..	0	0	11	1	2	2	0	0	0	1	5	20	0
	0830	"	1018.3	998.0	..	10.9	9.8	8.8	11.4	88	..	3.7	..	..	0	0	17	1	2	3	0	0	3	4	4	14	0
	1130	"	1018.3	998.5	..	18.1	13.8	10.5	12.2	63	..	3.1	..	..	0	3	21	1	2	3	2	1	0	5	10	7	0
	1730	"	1014.9	995.3	..	18.9	14.2	10.6	12.8	61	..	2.8	..	..	0	1	25	4	3	2	1	1	1	6	8	5	0
	2330	"	1017.1	996.9	..	11.7	10.5	9.6	11.9	90	..	2.1	..	..	0	1	12	2	2	2	1	0	1	1	4	18	0
Mainpuri	0830	157	1017.4	998.7	-0.6	11.0	10.0	9.0	11.4	88	+15	3.1	+0.9	1.5	0	0	14	0	0	3	1	0	2	6	2	17	0	
	1730	"	1014.5	996.6	..	19.2	15.1	10.6	13.4	62	..	2.0	..	1.6	0	0	17	0	0	4	0	0	0	12	1	14	0	
Aligarh	0830	187	1018.3	995.8	..	10.4	9.5	8.3	11.4	87	+23	2.3	+0.8	1.9	0	0	19	0	0	5	0	0	0	14	0	12	0	
	1730	"	1015.3	993.4	..	18.6	14.2	10.2	12.3	61	..	2.8	..	2.4	0	0	18	5	0	5	1	0	0	7	0	13	0	
Bareilly	0830	173	1018.0	997.3	+0.4	11.8	10.7	9.6	11.9	86	+5	3.0	+0.7	2.7	0	0	21	1	1	6	1	1	2	6	3	10	0	
	1730	"	1014.7	994.4	..	17.1	13.4	9.6	12.7	63	..	3.5	..	1.5	0	0	11	0	0	3	0	0	1	6	1	20	0	
Bareilly (P.B.O.)	0230	172	1016.0	995.4	..	11.2	10.2	9.2	11.4	88	..	1.8	..	4.9	0	0	26	0	0	7	1	1	2	8	7	5	0	
	0530	"	1015.7	995.1	..	10.9	9.8	9.2	11.4	90	..	3.0	..	5.0	0	0	26	3	3	6	1	0	0	2	11	5	0	
	1130	"	1017.9	997.6	..	16.5	14.1	12.9	14.1	77	..	3.2	..	8.3	0	0	31	2	0	6	5	0	0	4	14	0	0	
	2330	"	1016.5	996.0	..	12.6	11.1	9.8	11.9	84	..	1.4	..	3.8	0	0	22	1	0	7	1	0	1	10	2	9	0	
Meerut	0830	222	1019.1	992.5	+1.6	12.4	10.5	8.4	10.9	76	-1	1.0	-1.5	3.3	0	0	17	0	0	9	0	0	0	7	1	14	0	
	1730	"	1015.8	984.4	..	17.3	13.8	10.6	12.8	66	..	1.9	..	1.2	0	0	12	0	2	0	4	0	0	0	6	19	0	
Roorkee	0830	274	1018.0	985.3	+0.1	10.0	9.3	8.5	10.5	91	+8	2.7	+0.1	0.4	0	0	4	0	0	0	3	0	0	0	1	27	0	
	1730	"	1015.0	983.1	..	16.7	13.7	11.1	13.1	70	..	4.3	..	1.0	0	0	10	0	0	0	3	0	0	0	7	21	0	
Delhra Dun	0530	682	1016.8	937.2	..	8.5	7.4	6.3	9.4	86	..	2.7	..	3.4	0	0	21	10	8	0	0	0	0	2	1	10	0	
	0830	"	1018.2	938.9	+0.7	10.2	8.3	6.5	9.4	78	+5	2.0	-1.4	1.5	0	0	16	8	5	0	1	1	0	0	1	15	0	
	1130	"	1017.4	939.4	..	16.5	11.7	7.1	10.6	55	..	3.2	..	4.9	0	0	29	0	0	0	9	5	9	4	2	2	0	
	1730	"	1014.6	937.0	..	16.0	12.6	9.4	12.3	68	..	2.9	..	1.8	0	0	17	0	1	0	3	3	8	0	2	14	0	
	2330	"	1017.6	938.3	..	10.3	9.0	7.7	10.2	84	..	2.9	..	4.1	0	0	24	8	13	1	0	0	0	1	1	7	0	
Punjab (India) (In- cluding Delhi) New Delhi	0230	216	1016.9	990.9	..	10.5	9.2	8.0	10.5	83	..	2.7	..	6.0	0	0	25	1	0	1	4	0	1	2	16	6	0	
	0530	"	1016.5	990.5	..	9.4	8.3	7.1	10.1	86	..	2.8	..	6.0	0	0	25	2	1	1	3	1	0	9	8	6	0	
	0830	"	1018.4	992.3	0	9.7	8.5	7.0	10.3	84	+8	3.4	+0.1	8.2	0	0	28	1	1	2	3	0	1	11	9	3	0	
	1130	"	1018.3	992.9	..	17.1	12.6	8.0	11.2	57	..	2.9	..	12.1	0	3	27	2	0	1	3	2	3	4	15	1	0	
	1730	"	1015.3	990.0	..	17.8	13.3	8.7	11.7	57	..	3.5	..	9.5	0	0	30	2	1	5	2	1	0	1	18	1	0	
	2330	"	1017.3	991.5	..	11.9	10.1	8.2	10.5	79	..	1.9	..	5.0	0	0	26	2	0	3	3	1	0	6	11	5	0	
	New Delhi (Palam Aerodrome)	0230	233	1017.0	989.0	..	10.4	8.9	7.1	10.5	81	..	1.9	0	1	15	1	1	4	2	1	2	1	4	15	0
		0530	"	1016.6	988.5	..	8.7	7.7	6.5	9.7	85	..	2.5	..	..	0	1	18	0	1	3	3	3	4			

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars.			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in p.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Punjab (India) (Including Delhi)(Contd.) Hissar	0530	221	1017.1	990.3	..	7.0	6.5	5.8	9.3	92	..	2.0	..	2.4	0	0	15	1	2	1	1	2	2	5	1	16	0
	0830	"	1018.5	991.8	-0.4	7.4	6.6	5.5	8.9	88	+19	3.7	-1.5	3.1	0	0	20	2	0	2	3	2	4	7	0	11	0
	1130	"	1018.7	992.7	..	16.8	12.3	8.0	10.7	58	..	2.8	..	3.7	0	0	17	1	1	1	5	1	0	3	5	14	0
	1730	"	1015.1	989.6	..	17.7	12.7	7.5	10.7	54	..	2.3	..	5.8	0	0	27	5	1	4	1	1	1	9	5	4	0
	2330	"	1017.9	991.3	..	10.1	8.9	7.5	10.5	84	..	1.5	..	4.1	0	0	18	1	2	4	2	0	1	6	2	13	0
Karnal	0830	249	1018.1	988.2	..	9.7	8.7	7.7	10.1	85	..	0.7	..	..	0	0	2	0	0	0	1	0	0	0	1	29	0
	1730	"	1015.5	986.5	..	17.1	11.9	5.2	9.7	51	..	2.2	..	..	0	0	1	0	0	0	1	0	0	0	0	30	0
Patiala	0860	251	1018.2	998.1	..	9.9	8.6	7.2	10.1	85	..	2.3	..	4.7	0	0	23	0	0	1	6	0	0	1	15	8	0
	1730	"	1018.6	986.2	..	16.0	12.6	9.2	12.1	65	..	2.4	..	4.8	0	0	19	0	0	0	4	0	0	1	14	12	0
Ambala	0830	272	1017.1	984.5	-0.9	9.6	8.8	8.1	10.5	89	+14	1.5	-1.3	2.4	0	0	18	0	0	0	9	0	3	0	6	13	0
	1730	"	1015.1	983.6	..	16.8	13.4	10.5	12.6	66	..	1.0	..	1.4	0	0	14	0	0	0	3	0	0	0	11	17	0
Ambala (P.B.O.)	0230	278	1016.2	983.2	..	11.2	10.0	8.8	11.4	86	..	3.2	..	6.7	0	0	29	4	2	1	4	0	3	4	11	2	0
	0530	"	1015.9	982.7	..	9.7	8.9	8.2	10.7	91	..	2.2	..	6.1	0	0	27	3	1	2	5	1	2	4	9	4	0
	1130	"	1018.0	985.4	..	15.6	12.6	10.3	12.0	72	..	3.1	..	9.2	0	2	25	2	0	0	8	0	1	6	10	4	0
Ambala (Aero-drome)	2330	"	1016.6	983.7	..	12.0	10.7	9.6	11.9	85	..	3.2	..	7.0	0	2	25	1	2	1	4	1	0	7	11	4	0
	0530	274	1016.4	983.7	..	8.3	8.0	7.7	10.5	96	..	2.5	..	..	0	0	18	0	1	2	3	0	0	9	3	13	0
	0830	"	1017.8	984.8	..	8.5	8.2	7.8	10.5	94	..	3.2	..	..	0	2	22	0	0	3	4	0	0	12	5	7	0
	1130	"	1018.1	985.8	..	15.1	12.4	9.9	12.0	73	..	3.2	..	..	0	4	25	1	0	5	4	0	1	11	7	2	0
	1730	"	1014.9	982.9	..	16.8	13.3	10.1	12.6	65	..	3.1	..	..	0	5	21	0	1	1	4	1	0	12	7	5	0
Chandigarh	0830	347	1017.2	976.0	..	9.8	8.3	7.3	10.1	83	..	1.1	..	..	0	0	13	0	0	0	4	0	1	0	8	18	0
	1730	"	1014.7	974.5	..	16.4	12.9	9.3	11.8	65	..	1.2	..	..	0	0	23	0	0	0	9	0	5	0	9	8	0
Ludhiana	0830	247	1018.2	988.5	-1.0	9.4	8.5	7.6	10.3	08	+9	1.1	-1.6	3.1	0	0	22	1	0	0	5	0	2	6	8	9	0
	1730	"	1015.4	986.4	..	16.4	13.2	10.2	12.3	68	..	2.6	..	2.4	0	0	17	1	0	0	3	0	4	3	6	14	0
Halwara (Aero-drome)	0830	240	1018.4	988.9	..	7.6	7.3	6.9	10.1	95	..	3.5	..	..	0	0	25	0	1	1	4	1	1	6	11	6	0
	1730	"	1015.5	987.2	..	15.9	12.7	9.9	12.1	64	..	3.5	..	..	0	2	27	1	0	1	3	2	0	10	12	2	0
Ferozepur	0830	200	1017.6	993.3	..	7.8	7.5	6.6	10.1	95	..	1.8	..	0.3	0	0	3	0	1	1	1	0	0	0	0	28	0
	1730	"	1015.4	990.4	..	16.5	13.6	10.6	13.6	72	..	2.4	..	0.7	0	0	7	0	2	0	0	2	0	0	3	24	0
Amritsar	0530	234	1016.9	988.5	..	7.0	6.7	6.6	9.5	97	..	1.9	..	2.3	0	0	10	0	0	4	1	0	0	2	3	21	0
	0830	"	1018.4	990.0	..	7.0	6.6	6.1	9.5	94	..	2.7	..	2.6	0	1	11	2	1	2	2	1	2	1	1	19	0
	1130	"	1019.0	991.0	..	14.1	11.5	9.2	11.5	72	..	3.0	..	4.6	0	1	21	4	0	1	4	1	3	4	5	9	0
Fathankot	1730	"	1015.6	988.1	..	15.9	12.6	9.4	11.9	66	..	3.3	..	0.4	0	0	20	2	0	1	0	2	3	4	8	11	0
	0830	344	1018.2	977.3	..	9.6	8.5	7.2	10.1	85	..	4.8	..	1.5	0	0	14	0	3	10	1	0	0	0	0	17	0
Pathankot (Aero-drome)	1730	"	1016.0	976.0	..	15.8	12.6	9.8	11.6	68	..	5.4	..	2.3	0	0	18	1	3	0	0	1	4	8	1	13	0
	0830	312	1018.1	980.8	..	9.4	8.8	8.1	10.9	92	..	3.7	..	2.5	0	0	19	1	8	6	1	1	1	0	1	12	0
	1130	"	1018.1	981.7	..	15.4	12.4	9.6	12.0	69	..	3.8	..	4.0	0	0	29	1	3	8	0	3	8	5	1	2	0
Adampur (Aero-drome)	1730	"	1015.4	979.1	..	15.6	12.9	10.4	12.5	72	..	4.2	..	3.8	0	0	29	2	1	1	0	2	5	15	3	2	0
	0530	233	1015.7	986.9	..	7.2	7.1	6.9	10.2	89	..	2.7	..	..	0	1	8	0	0	1	3	0	0	0	5	22	0
	0830	"	1016.8	988.0	..	7.8	7.6	7.4	10.1	97	..	2.8	..	..	0	1	20	2	2	1	5	1	1	1	8	10	0
	1130	"	1017.1	989.1	..	15.5	12.5	9.9	12.0	72	..	2.9	..	..	0	4	26	1	0	0	7	1	2	2	17	1	0
	1730	"	1014.3	986.4	..	16.0	13.2	10.3	12.6	70	..	3.9	..	..	0	0	27	1	0	1	3	0	2	2	18	4	0
2330	"	1016.3	987.7	..	9.5	9.1	8.6	10.9	95	..	2.5	..	..	0	1	20	2	1	1	2	1	0	1	13	10	0	
Himachal Pradesh Bilaspur	0830	493	1019.4	961.0	..	7.8	7.5	7.3	10.2	97	..	6.8	..	1.4	0	0	14	2	2	1	4	1	2	1	1	17	0
	1730	"	1014.4	957.9	..	17.6	13.2	8.8	12.1	58	..	4.6	..	5.2	0	0	31	3	0	0	0	9	13	2	4	0	0
Mandi	0830	761	1019.7	990.4	..	5.9	5.7	5.5	9.0	96	..	3.9	..	1.3	0	0	13	0	3	1	0	2	0	6	1	18	0
	1730	"	1013.6	927.5	..	14.6	10.7	7.1	9.6	62	..	3.7	..	0.9	0	0	10	1	0	1	2	4	1	0	1	21	0
Jammu & Kashmir Srinagar	0530	1587	1542.3	845.4	..	-2.6	-2.8	-3.2	4.6	96	..	7.2	..	2.0	0	0	17	0	0	0	12	1	1	3	0	14	0
	0830	"	1556.5	847.0	+1.7	-2.3	-2.5	-2.9	4.8	95	+9	7.5	+0.9	1.1	0	0	9	0	0	1	8	0	0	0	0	22	0
	1130	"	1563.5	847.7	..	-0.2	-1.0	-2.3	5.2	86	..	7.1	..	2.5	0	0	22	0	0	0	14	0	3	2	3	9	0
	1730	"	1543.1	845.3	..	0	-0.8	-2.1	5.2	86	..	6.3	..	2.5	0	0	21	0	0	0	11	2	1	6	1	10	0
	2330	"	1550.4	846.3	..	-2.1	-2.3	-2.6	4.8	96	..	6.2	..	1.9	0	0	17	0	0	0	12	0	0	4	1	14	0
Srinagar (Aero-drome)	0530	1665	15																								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars		Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Okta)		Wind speed (km. p.h.)			No. of observations													
			At mean sea level or height in ft. m. of the nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb				Dew point	Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Jammu and Kashmir—(Contd.)																													
Dras	0830	3066																											
Leh	0530	3514	3099.5	664.0	..	-11.8	-13.5	-21.1	1.1	43	..	3.7	..	4.2	0	0	19	5	14	0	0	0	0	0	0	0	0	0	
	0830	"	3114.8	665.2	+0.8	-10.0	-12.1	-19.3	1.3	40	-19	4.2	-1.2	1.6	0	0	8	0	6	0	0	1	1	0	0	0	0	23	0
	1730	"	3077.1	663.0	..	-2.0	-4.9	-11.8	2.4	53	..	3.8	..	6.1	0	0	25	0	1	0	1	10	10	2	1	5	0	0	
Skardu (R)	0830	2288																											
	1730	"																											
Gilgit (R)	0830	6491																											
	1730	"																											
Masgar (R)	0830	3106																											
	1730	"																											
Iamgu (R)	0830	..																											
Jammu (Aerodrome)	0530	292	1016.5	981.7	..	9.1	8.5	7.0	10.5	88	..	2.7	..	..	0	2	14	0	13	2	0	0	0	0	0	1	15	0
	0830	"	1018.3	983.3	..	9.8	8.2	6.4	9.6	81	..	3.2	..	..	0	1	20	1	13	3	2	1	0	1	0	0	10	0
	1130	"	1018.4	983.6	..	15.0	11.5	8.4	10.6	65	..	3.5	..	..	0	1	24	1	5	2	8	4	0	3	2	6	0	0
	1730	"	1015.6	981.2	..	15.6	11.8	8.1	10.1	62	..	4.4	..	..	0	4	16	0	3	1	3	0	3	8	2	11	0	0
Rajasthan (West)																													
Sri Ganganagar	0530	177	1016.6	995.1	..	7.8	6.9	5.9	9.3	88	..	1.7	..	0.4	0	0	4	2	1	0	0	1	0	0	0	0	27	0	
	0830	"	1017.9	996.5	..	7.5	6.8	6.0	9.5	90	+15	1.8	-1.4	1.0	0	0	6	1	2	0	2	1	0	0	0	0	25	0	
	1130	"	1018.3	997.4	..	15.0	11.9	8.1	11.5	65	..	2.7	..	2.9	0	0	18	3	1	0	4	2	2	2	4	13	0	0	
	1730	"	1015.0	994.2	..	18.3	13.1	7.9	11.3	52	..	1.7	..	0.9	0	0	7	0	0	0	0	0	1	1	5	24	0	0	
	2330	"	1017.3	996.0	..	9.8	8.9	7.3	10.7	81	..	1.6	..	0.6	0	0	4	0	0	1	1	0	1	0	1	27	0	0	
Churu	0830	291	1018.9	983.7	..	8.1	6.3	3.9	8.1	76	..	2.0	..	3.5	0	0	21	1	1	4	6	3	3	2	1	10	0	0	
	1730	"	1014.8	981.3	..	19.9	12.7	4.7	8.1	37	..	2.2	..	8.6	0	1	29	16	4	0	0	2	2	0	6	1	0	0	
Bikaner	0830	224	1018.5	991.4	-0.2	7.7	6.5	5.0	8.9	85	+20	1.8	-0.4	2.2	0	0	16	1	1	1	7	2	0	0	4	15	0	0	
	1730	"	1014.8	988.9	..	20.5	14.6	8.8	12.1	52	..	1.1	..	7.2	0	0	29	4	9	0	2	0	1	2	11	2	0	0	
Bikaner (P.B.O.)	0530	224	1016.6	989.5	..	6.7	5.5	4.0	8.2	83	..	1.6	..	0.7	0	0	4	0	1	0	1	1	0	0	1	27	0	0	
	1130	"	1018.2	992.0	..	18.2	12.2	6.8	9.6	48	..	1.9	..	6.5	0	1	24	3	6	2	4	4	2	3	1	6	0	0	
	2330	"	1017.2	990.4	..	10.7	8.3	5.5	9.7	71	..	1.4	..	2.9	0	0	11	4	4	0	0	0	1	0	2	20	0	0	
Jaisalmer	0830	242	1017.7	988.7	..	10.4	7.5	3.4	7.9	64	..	1.8	..	8.3	0	2	18	6	5	0	0	3	3	2	1	11	0	0	
	1730	"	1014.4	986.6	..	21.4	11.7	0	5.7	23	..	1.8	..	18.1	0	9	21	9	6	0	0	5	5	1	4	1	0	0	
Phalodi	0830	234	1018.6	990.5	..	9.1	7.3	5.1	8.8	77	..	2.0	..	3.7	0	0	14	3	1	1	2	2	5	0	0	17	0	0	
	1730	"	1015.4	988.7	..	21.4	14.4	7.6	10.6	42	..	2.3	..	10.5	0	3	22	14	2	2	0	0	1	3	3	6	0	0	
Nagaur	0830	298	1018.9	983.5	..	12.3	9.6	6.3	9.6	67	..	1.9	..	6.2	0	0	25	6	6	2	2	3	1	2	3	6	0	0	
	1730	"	1014.6	980.3	..	21.2	14.3	6.8	10.6	42	..	2.0	..	7.5	0	1	30	7	5	1	3	0	3	4	8	0	0	0	
Jodhpur	0230	224	1016.4	989.7	..	13.1	8.8	3.3	7.9	52	..	1.0	..	10.0	0	0	29	8	17	1	0	0	2	0	1	2	0	0	
	0530	"	1016.1	989.4	..	11.7	8.0	3.2	7.9	57	..	1.3	..	10.8	0	0	31	7	20	1	0	1	2	0	0	0	0	0	
	0830	"	1017.9	991.2	+1.3	11.9	8.3	4.1	8.1	58	+11	2.0	-0.4	8.4	0	2	24	3	21	0	0	0	1	1	0	5	0	0	
	1130	"	1018.1	992.0	..	19.4	12.5	5.4	9.1	41	..	2.0	..	11.3	0	1	28	3	16	3	1	1	2	2	1	2	0	0	
	1730	"	1014.2	988.4	..	23.0	13.6	3.0	8.0	28	..	2.0	..	10.0	0	2	28	6	11	2	1	0	4	3	3	1	0	0	
	2330	"	1016.7	990.4	..	15.4	10.0	2.7	8.0	43	..	1.0	..	9.8	0	0	30	7	19	0	0	0	1	0	3	1	0	0	
Darmer	0530	194	1015.6	992.4	..	11.9	8.4	3.9	8.1	60	..	1.0	..	6.9	0	0	25	3	2	0	0	0	0	6	14	6	0	0	
	0830	"	1017.7	994.5	+0.1	12.0	8.7	4.4	8.5	51	+10	0.9	-0.2	6.6	0	0	28	3	3	0	0	0	1	2	19	3	0	0	
	1130	"	1017.9	995.3	..	19.6	12.8	5.6	9.4	42	..	1.1	..	10.4	0	0	30	9	8	3	2	2	1	2	3	1	0	0	
	1730	"	1013.7	991.4	..	23.1	14.0	4.3	8.5	31	..	1.5	..	7.1	0	0	30	8	8	2	0	3	0	4	5	1	0	0	
	2330	"	1016.6	993.7	..	15.3	10.0	3.4	8.1	46	..	1.0	..	5.3	0	0	25	0	0	0	0	0	3	2	20	6	0	0	
Rajasthan (East)																													
Pilani	0830	..	..	..	..	8.9	6.8	3.8	8.0	72	..	1.2	..	4.3	0	0	27	0	1	0	6	6	11	3	0	4	0	0
	1730	"	..	..	..	19.8	12.5	4.2	8.7	38	..	2.2	..	9.0	0	2	29	12	5	3	1	0	2	2	6	0	0	0
Alwar	0830	271	1017.8	985.1	..	8.6	8.3	8.1	10.3	94	..	1.9	..	0.3	0	0	3	0	1	1	0	1	0	0	0	28	0	0	
	1730	"	1014.2	982.9	..	19.8	15.5	11.0	13.2	59	..	2.6	..	4.0	0	0	22	4	9	4	1	0	1	0	0	9	3	0	
Sikar	0830	433	1018.5	967.5	..	11.1	9.0	6.3	9.8	75	..	1.7	..	1.6	0	0	15	0	0	11	2	1	0	1	0	16	0	0	
	1730	"	1014.2	964																									

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Rajast an (East)— (Contd.) Jaipur (Sanganer Aerodrome)—Contd.	1730	390	1013.9	969.2	..	20.1	13.3	5.9	9.9	42	..	2.3	..	..	0	0	29	2	1	7	3	2	2	2	10	2	0
	2330	..	1016.8	970.9	..	12.5	9.7	6.3	10.1	67	..	1.3	..	..	0	0	28	6	8	10	2	0	0	0	2	3	0
Dholpur . . .	0830	176	1017.9	936.9	..	12.2	10.5	8.3	11.4	79	..	3.7	..	2.9	0	0	13	2	0	0	2	0	0	3	6	18	0	
	1730	..	1014.5	994.0	..	19.6	14.3	9.5	11.9	54	..	3.0	..	3.9	0	0	17	4	2	2	1	0	0	0	8	14	0	
Ajmer . . .	0830	486	1019.0	961.5	-0.4	8.9	7.2	5.2	9.0	79	+23	2.3	+0.4	2.0	0	0	18	4	3	1	1	2	1	3	3	13	0	
	1730	..	1014.0	959.0	..	20.1	12.3	3.7	8.6	35	..	2.0	..	8.3	0	0	29	6	4	2	3	3	2	5	4	2	0	
Kotah . . .	0530	257	1016.5	986.0	..	11.8	9.9	7.6	10.5	76	..	1.2	..	0.6	0	0	5	0	0	0	0	0	2	1	2	26	0	
	0830	..	1017.9	987.4	-0.6	13.0	10.3	7.2	10.3	69	+12	2.3	+0.5	0.9	0	0	9	0	0	1	0	0	1	3	4	22	0	
	1130	..	1017.8	988.1	..	19.9	14.1	8.4	11.5	50	..	1.7	..	1.8	0	0	18	5	3	4	4	0	0	1	1	13	0	
	1730	..	1014.1	984.8	..	22.8	15.2	8.2	10.8	40	..	2.1	..	3.3	0	0	20	2	5	2	2	0	2	1	6	11	0	
Chambal . . .	2330	..	1016.5	986.3	..	15.5	11.9	8.1	11.1	62	..	1.0	..	1.0	0	0	9	0	0	3	0	1	1	2	2	22	0	
	0830	351	1018.1	976.8	..	13.4	10.4	7.2	10.1	69	..	2.2	..	2.3	0	0	15	6	4	1	2	0	0	0	2	16	0	
Jhalawar . . .	1730	..	1013.1	973.2	..	22.7	15.0	7.5	10.8	39	..	1.9	..	7.1	0	0	28	5	12	2	1	2	2	1	3	3	0	
	0830	321	1017.7	979.9	-0.3	13.3	10.2	7.3	9.6	63	+5	1.7	0	2.0	0	0	18	5	5	1	3	0	1	0	3	13	0	
Udaipur . . .	1730	..	1012.9	976.6	..	23.8	15.2	7.9	10.4	36	..	1.6	..	3.6	0	0	25	5	11	1	2	0	1	2	3	6	0	
	0230	582	1017.0	948.8	..	9.7	8.6	7.3	10.3	86	..	0.6	..	0.1	0	0	1	0	0	0	0	0	0	0	0	1	30	0
	0530	..	1017.1	948.6	..	8.4	7.6	6.5	9.7	88	..	1.1	..	0.1	0	0	1	0	0	1	0	0	0	0	0	0	30	0
	0830	..	1018.4	950.7	+0.3	12.1	9.4	6.5	9.6	69	+15	1.8	+0.4	0.7	0	0	6	1	0	0	0	1	0	0	4	25	0	
	1130	..	1016.7	950.9	..	20.2	13.9	8.5	10.4	49	..	1.6	..	3.4	0	0	22	5	4	3	2	4	1	1	2	9	0	
	1730	..	1012.6	947.5	..	22.2	15.5	10.1	11.2	47	..	2.0	..	2.9	0	0	18	1	2	6	1	0	4	3	1	13	0	
	2330	..	1017.4	949.6	..	11.4	9.7	8.1	10.7	80	..	0.9	..	0.4	0	0	3	0	1	0	0	0	0	2	0	28	0	
	0830	295	1018.0	982.5	..	10.6	8.3	5.7	9.2	73	..	1.9	..	3.0	0	0	14	0	0	1	1	9	0	3	0	17	0	
1730	..	1013.6	979.9	..	23.5	14.9	7.0	9.8	36	..	1.5	..	4.7	0	0	29	9	2	1	0	0	4	6	7	2	0		
Madhya Pradesh (West) Gwalior (P.B.O.) .	0230	207	1016.3	991.5	..	10.0	9.1	7.9	10.8	87	..	2.3	..	3.3	0	1	19	2	2	1	8	5	1	0	1	11	0	
	0530	..	1016.5	991.6	..	9.5	8.7	7.8	10.4	89	..	2.2	..	2.2	0	0	15	1	1	1	6	1	0	0	5	16	0	
	0830	..	1018.3	993.6	+0.1	11.9	10.3	8.5	11.1	81	+9	3.3	+0.8	3.1	0	0	21	3	0	2	8	1	3	1	3	10	0	
	1130	..	1018.1	993.9	..	18.0	13.4	8.5	11.7	58	..	3.1	..	7.1	0	0	27	10	4	0	4	0	2	2	5	4	0	
	1730	..	1014.6	990.7	..	19.8	14.2	8.7	11.8	52	..	2.7	..	5.7	0	0	30	15	6	0	3	1	0	0	5	1	0	
	2330	..	1017.0	992.3	..	11.4	10.2	8.7	11.5	84	..	2.0	..	2.9	0	0	16	1	1	0	6	4	3	0	1	15	0	
	0830	235	1018.2	990.2	..	12.1	10.3	8.1	11.0	78	..	2.6	..	3.0	0	0	19	4	6	3	2	2	2	2	0	0	12	0
Shicpur Kalan . . .	1730	..	1013.6	986.7	..	22.2	15.2	8.2	11.6	43	..	2.9	..	6.9	0	0	29	9	8	3	1	1	2	2	3	2	0	
	0530	478	1016.0	959.9	..	10.8	9.0	7.1	10.2	79	..	1.7	..	2.6	0	0	16	0	2	3	5	4	0	0	2	15	0	
Guna . . .	0830	..	1017.3	961.8	-0.8	13.9	10.9	7.9	10.9	69	+7	2.6	+1.2	3.2	0	0	19	5	0	8	2	3	0	0	1	12	0	
	1130	..	1016.7	962.2	..	19.9	13.7	7.9	11.1	48	..	2.2	..	6.1	0	0	28	2	6	9	5	1	2	1	2	3	0	
	1730	..	1012.8	958.9	..	21.9	14.5	7.9	11.1	42	..	2.3	..	5.8	0	0	29	7	5	6	0	1	0	5	5	2	0	
	2330	..	1016.5	960.9	..	13.8	11.1	8.5	11.1	71	..	1.3	..	2.9	0	0	19	3	4	7	2	3	0	0	0	12	0	
Rajgarh . . .	0830	382	1017.4	972.5	..	12.7	10.4	7.7	10.9	72	..	1.5	..	3.3	0	0	13	0	5	0	2	4	1	0	1	18	0	
	1730	..	1012.0	969.1	..	24.6	15.2	6.4	9.6	33	..	2.0	..	7.5	0	1	22	8	4	0	2	0	1	3	5	8	0	
Nee such . . .	0830	496	1018.5	960.7	+0.2	13.3	9.1	4.1	8.5	55	0	1.9	+0.4	3.0	0	0	22	0	12	7	1	1	0	0	1	9	0	
	1730	..	1013.3	957.7	..	23.2	13.5	3.6	8.4	29	..	2.2	..	6.3	0	0	29	4	9	2	1	3	3	2	5	2	0	
Ratlam . . .	0830	486	1017.2	960.4	..	12.6	10.0	7.0	10.4	69	..	1.9	..	6.3	0	0	17	2	8	6	1	0	0	0	0	14	0	
	1730	..	1011.9	957.7	..	25.0	16.1	9.3	11.9	38	..	2.3	..	5.6	0	2	18	2	6	1	0	0	4	3	4	11	0	
Alirajpur . . .	0830	293	1017.3	982.9	..	14.4	11.6	8.7	11.4	69	..	1.7	..	2.1	0	0	12	0	0	10	1	0	0	1	0	19	0	
	1730	..	1012.1	979.2	..	26.4	16.1	6.4	10.0	29	..	1.1	..	8.2	0	1	30	5	3	3	0	0	0	14	6	0	0	
Indore . . .	0530	567	1015.6	949.6	..	11.7	9.6	7.3	10.4	75	..	0.9	..	4.0	0	0	23	3	5	3	3	5	3	0	1	8	0	
	0830	..	1017.3	951.8	-0.3	14.3	11.0	7.9	10.7	67	+7	2.1	+0.4	5.7	0	0	26	2	6	7	2	6	1	1	0	5	1	
	1130	..	1015.5	951.9	..	22.4	14.6	7.9	11.0	41	..	1.5	..	11.2	0	4	24	0	7	8	4	5	2	2	0	3	0	
	1730	..	1011.8	948.7	..	24.1	15.0	7.2	10.5	35	..	2.0	..	11.0	0	2	28	5	6	2	0	1	10	3	3	1	0	
	2330	..	1016.0	950.7	..	14.9	11.2	7.5	10.7	63	..	1.5	..	7.0	0	1	26	2	9	2	2	2	5	1	3	4	1	
Bhopal (Bairagarh)	0230	523	1015.1	954.7	..	14.0	10.9	7.8	10.9	67	..	1.1	..	9.2	0	2	27	4	11	3								

Division and station	Hour of observation I.S.T.	Height of barometre (corrected) above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
																		19	20	21	22	23	24	25	26			27	28
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Madhya Pradesh (East) — (Contd.)																											
Hoshangabad	0830	302	1017.5	982.2	-0.3	16.1	13.0	10.1	12.5	68	+12	3.0	+1.3	5.5	0	0	24	2	4	13	2	2	0	0	1	7	0
	1730		1012.3	978.3	..	25.4	17.2	10.3	12.9	42	..	2.1	..	3.0	0	0	20	5	4	4	1	0	1	4	0	11	1
Betul	0830	653	1017.1	942.5	..	15.9	12.7	10.1	12.3	69	..	3.2	..	2.9	0	0	22	1	2	4	10	4	0	1	0	9	0
	1730	..	1011.5	939.3	..	24.0	15.4	8.5	11.2	38	..	2.3	..	7.7	0	0	20	6	5	1	3	3	3	6	2	2	0
Chhindwara	0830	685	1017.7	939.4	..	15.1	12.8	10.9	13.2	76	..	3.4	..	2.4	0	0	14	2	6	2	1	0	0	1	2	17	0
	1730	..	1011.8	936.0	..	23.3	15.4	9.1	11.7	41	..	3.7	..	7.1	0	0	31	2	3	0	3	8	8	3	4	0	0
Seoni	0830	619	1017.1	946.5	+0.1	16.2	13.7	11.5	14.9	74	+13	3.6	+2.0	2.7	0	0	19	4	4	0	2	4	5	0	0	12	0
	1730	..	1012.3	943.4	..	22.7	16.4	11.6	14.2	52	..	3.4	..	3.7	0	0	28	4	5	0	4	8	7	0	0	3	0
Sagar	0830	551	1017.2	953.7	-0.3	15.2	11.6	8.1	11.1	65	+15	2.2	+0.4	9.6	0	3	25	0	8	11	2	1	2	3	1	3	0
	1730	..	1012.5	950.7	..	22.1	14.9	8.3	11.7	44	..	2.6	..	6.5	0	1	26	1	5	9	2	1	0	5	4	4	0
Nowgong	0830	229	1018.5	991.2	+0.1	11.9	10.8	9.7	12.1	87	+11	3.7	+1.5	2.9	0	0	23	2	6	0	0	7	5	0	3	8	0
	1730	..	1014.3	988.0	..	21.3	15.7	10.8	13.4	54	..	2.9	..	3.4	0	0	20	4	10	0	0	0	0	0	6	11	0
Madhya Pradesh (East) — (Contd.)																											
Suma	0530	317	1016.1	978.5	..	11.7	10.5	9.2	10.8	85	..	2.1	..	1.4	0	0	8	1	1	3	1	0	1	1	0	23	0
	0830	..	1018.0	980.8	+0.1	14.4	12.0	9.4	11.9	73	+5	3.1	+1.1	2.0	0	0	16	0	2	6	3	1	2	2	0	15	0
	1130	..	1017.0	980.5	..	20.2	14.5	9.1	12.0	52	..	3.2	..	4.5	0	0	27	0	4	4	3	3	2	3	8	4	0
	1730	..	1013.9	977.6	..	21.1	15.5	11.0	13.1	55	..	3.1	..	3.1	0	0	21	2	5	2	1	0	0	1	10	10	0
	2330	..	1016.6	979.4	..	14.2	12.2	10.2	12.7	78	..	2.4	..	1.7	0	0	10	0	2	3	3	0	0	1	1	21	0
Sidhi	0830	266	1016.0	984.8	..	14.4	12.1	9.7	12.3	74	..	3.0	..	2.8	0	0	25	1	1	5	2	5	5	4	2	6	0
	1730	..	1011.8	981.4	..	21.4	15.9	11.0	13.4	55	..	2.6	..	2.0	0	0	17	3	3	4	0	1	2	1	3	14	0
Umari	0830	459	1017.9	964.7	..	15.3	13.1	11.5	12.1	79	+11	2.8	+0.3	4.0	0	0	23	0	5	5	10	1	1	1	0	8	0
	1730	..	1013.3	961.5	..	21.8	17.4	14.4	16.7	64	..	3.5	..	1.5	0	0	8	1	0	0	3	0	4	0	0	23	0
Jabalpur	0530	393	1015.8	969.7	..	12.6	11.7	10.9	13.1	89	..	2.8	..	4.2	0	0	23	2	5	2	10	3	0	0	1	8	0
	0830	..	1017.6	971.8	+0.1	14.7	12.7	10.9	13.1	78	+7	2.7	+0.9	4.3	0	0	21	0	4	1	12	3	0	0	1	10	0
	1130	..	1016.1	971.5	..	22.3	16.4	11.6	13.9	52	..	2.6	..	6.3	0	0	30	6	6	0	5	5	2	2	4	1	0
	1730	..	1012.5	968.3	..	23.8	17.2	12.1	14.3	49	..	3.2	..	4.8	0	0	28	7	11	0	2	2	0	4	3	0	
	2330	..	1016.0	970.4	..	15.9	13.8	12.0	14.2	78	..	2.6	..	4.7	0	0	22	1	9	2	7	3	0	0	0	9	0
Mandla	0830	443	1018.0	966.3	..	13.4	12.7	11.7	13.9	90	..	3.2	..	0.9	0	0	6	3	1	0	0	0	0	0	2	25	0
	1730	..	1012.7	962.9	..	22.5	16.8	12.3	14.7	55	..	3.4	..	2.6	0	0	15	5	0	0	2	4	0	1	3	16	0
Pendra	0530	625	1015.6	943.7	..	13.3	11.8	10.4	12.7	83	..	2.3	..	3.8	0	0	15	7	1	0	1	4	1	0	1	16	0
	0830	..	1017.4	946.0	-0.5	15.5	13.2	11.1	13.6	76	+10	3.3	+1.5	4.3	0	0	22	6	2	0	1	2	6	0	5	9	0
	1130	..	1016.0	945.9	..	21.1	15.6	11.4	13.6	56	..	3.6	..	9.1	0	1	29	8	1	3	1	5	6	2	4	1	0
	1730	..	1013.1	943.1	..	20.4	15.6	11.7	14.2	59	..	4.1	..	6.3	0	0	27	8	1	0	2	8	6	1	1	4	0
	2330	..	1006.3	944.9	..	15.2	13.2	11.4	13.8	79	..	2.5	..	4.9	0	0	26	8	0	1	1	2	5	4	5	5	0
Ambikapur	0830	611	1018.1	947.9	..	14.8	12.9	11.4	13.5	80	..	2.8	..	4.5	0	1	18	3	6	2	1	2	3	1	1	12	0
	1730	..	1013.3	944.9	..	21.3	15.6	11.2	13.8	54	..	2.5	..	7.8	0	0	31	16	3	0	0	2	3	2	5	0	0
Champa	0830	245	1017.5	988.9	..	17.1	14.9	12.8	15.2	76	..	2.5	..	3.3	0	0	18	14	0	2	2	0	0	0	0	13	0
	1730	..	1013.2	985.4	..	24.8	17.7	12.2	14.2	47	..	2.6	..	2.3	0	0	21	11	0	0	0	1	2	6	1	10	0
Raigarh	0830	220	1017.2	991.6	..	18.1	15.2	13.2	15.0	72	..	3.0	..	4.1	0	0	28	0	21	3	3	1	0	0	0	3	0
	1730	..	1012.5	987.5	..	25.5	18.0	12.3	14.5	45	..	2.3	..	3.7	0	0	24	2	4	1	2	3	2	3	7	7	0
Raipur	0530	298	1014.9	980.5	..	15.8	14.0	12.4	14.5	80	..	1.6	..	2.7	0	0	16	3	3	2	0	5	1	1	1	15	0
	0830	..	1017.2	982.7	+0.2	18.5	15.2	12.5	14.6	68	+6	2.3	+0.8	3.3	0	0	22	4	2	5	5	6	0	0	0	9	0
	1130	..	1016.0	982.1	..	24.1	17.3	11.9	14.3	48	..	2.4	..	5.6	0	0	31	4	7	2	4	6	3	4	1	0	0
	1730	..	1012.7	979.1	..	25.0	17.5	11.5	13.9	44	..	2.4	..	2.9	0	0	20	5	0	3	0	6	4	1	1	11	0
	2330	..	1015.1	980.7	..	19.3	15.6	12.5	14.7	66	..	1.3	..	4.7	0	0	28	2	3	7	3	8	2	2	1	3	0
Kanker	0830	402	1017.3	970.9	-0.1	17.1	14.9	13.2	15.2	78	+7	2.4	+0.6	0.8	0	0	5	1	0	0	0	0	2	1	1	26	0
	1730	..	1012.4	967.5	..	25.3	18.4	13.4	15.4	48	..	2.7	..	0.2	0	0	2	0	0	0	0	0	1	1	0	29	0
Jagdalpur (P.B.O)	0530	553	1015.9	952.0	..	13.3	12.5	11.7	13.9	90	..	1.1	..	1.0	0	0	9	1	1	1	5	1	0	0	0	22	0
	0830	..	1017.6	954.3	+0.2	16.6	14.3	12.6	14.7	77	-1	1.9	0														

Division and station	Hour of observation I.S.T.	Height of barometer, eastern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard barometric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal.		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Gujarat— (Cont.) Ahmedabad	0230	55	1014.2	1007.7	..	14.8	10.8	6.4	9.8	58	..	0.7	..	6.4	0	0	26	7	7	3	1	0	0	0	8	5	0
	0530	..	1014.1	1007.6	..	13.3	10.0	6.4	9.6	64	..	1.0	..	7.0	0	0	25	4	8	5	1	0	0	2	5	6	0
	0830	..	1016.2	1009.6	-0.7	14.5	10.8	6.6	10.1	60	+7	1.6	+0.3	7.4	0	0	21	1	7	7	1	0	0	0	5	10	0
	1130	..	1016.6	1010.3	..	23.8	16.0	9.0	11.9	40	..	1.3	..	12.6	0	2	29	2	6	12	3	1	0	1	6	0	0
	1730	..	1012.7	1006.5	..	27.0	16.4	6.9	10.2	29	..	1.5	..	10.9	0	1	29	6	4	3	0	1	2	4	10	1	0
	2330	..	1015.0	1008.5	..	17.0	11.9	6.6	9.8	50	..	0.7	..	8.0	0	0	27	6	5	2	0	0	0	2	12	4	0
Dohad	0830	333	1016.7	977.8	..	15.3	11.5	7.6	10.6	60	-1	1.5	0	5.7	0	1	23	1	5	9	1	7	0	0	1	7	0
	1730	..	1012.1	974.8	..	25.9	15.9	6.4	10.0	29	..	0.9	..	10.2	0	2	28	2	4	3	0	1	13	5	2	1	0
Baroda	0530	34	1014.0	1009.8	..	13.6	11.4	9.2	11.7	76	..	0.7	..	1.4	0	0	11	2	7	1	0	0	1	0	0	20	0
	0830	..	1016.3	1012.1	..	14.9	11.9	8.8	11.5	68	+10	1.3	+0.3	1.8	0	0	13	1	10	1	1	0	0	0	0	18	0
	1130	..	1016.5	1012.4	..	25.7	16.8	9.1	12.0	36	..	0.3	..	4.1	0	0	25	1	15	5	1	0	2	1	0	6	0
	1730	..	1012.6	1008.6	..	27.9	17.9	9.8	12.4	33	..	1.0	..	4.0	0	0	25	1	8	1	0	0	1	7	7	6	0
Baroda (Aerodrome)	2330	..	1014.9	1010.7	..	17.3	13.4	9.8	12.3	63	..	0.8	..	2.8	0	0	23	0	15	0	1	2	2	0	3	8	0
	0830	38	1016.2	1011.7	..	15.3	11.7	8.0	10.9	62	..	1.4	..	5.2	0	0	21	9	5	0	1	3	1	1	1	10	0
	1130	..	1016.2	1011.9	..	25.6	16.3	8.1	11.0	34	..	0.8	..	9.8	0	4	24	7	7	2	3	1	1	5	2	3	0
Broach	1730	..	1012.4	1008.2	..	27.6	17.0	7.6	10.8	29	..	1.1	..	8.2	0	2	26	6	4	0	0	0	3	8	7	3	0
	0830	17	1015.5	1013.4	..	14.0	11.2	8.2	11.1	69	..	1.1	..	4.3	0	0	27	1	10	1	1	1	4	1	8	4	0
Surat	1730	..	1011.9	1009.9	..	29.4	18.0	8.4	11.4	28	..	0.5	..	8.0	0	0	31	2	6	1	1	0	7	4	10	0	0
	0530	12	1013.3	1011.9	..	16.6	13.0	9.4	12.1	64	..	0.7	..	8.6	0	1	28	15	6	3	1	0	0	0	4	2	0
Surat	0830	..	1015.6	1014.2	0	16.7	13.0	9.5	12.0	63	+4	0.8	-0.4	8.7	0	0	28	16	6	3	1	0	0	0	2	3	0
	1130	..	1015.8	1014.4	..	26.4	17.1	9.4	11.9	35	..	0.5	..	8.2	0	0	29	11	11	2	0	0	0	0	5	2	0
	1730	..	1012.1	1010.7	..	28.6	18.8	11.3	13.8	35	..	0.5	..	10.8	0	1	30	4	2	2	1	1	4	3	14	0	0
	2330	..	1014.3	1012.9	..	20.1	15.2	10.7	13.4	57	..	0.6	..	6.8	0	1	26	17	3	2	1	1	1	0	2	4	0
Saurashtra and Kutch Naliya	0830	21	1017.2	1014.6	..	11.3	8.7	5.5	9.0	69	..	1.3	..	7.4	0	0	30	6	15	7	0	0	0	0	2	1	0
	1730	..	1014.1	1011.6	..	24.3	14.9	6.4	9.4	32	..	1.2	..	14.0	0	2	28	10	3	3	0	1	3	9	1	1	0
Bhuj (Aerodrome)	0230	80	1015.5	1005.9	..	13.0	9.2	4.4	8.7	57	..	0.5	..	2.5	0	0	13	3	2	0	0	1	3	3	1	18	0
	0530	..	1015.3	1005.7	..	11.3	8.4	4.6	8.8	65	..	0.7	..	1.8	0	0	10	0	1	0	0	0	8	1	0	21	0
	0830	..	1017.2	1007.6	+0.4	12.1	8.8	4.5	8.6	62	-27	1.0	-0.3	2.1	0	0	14	1	2	0	0	1	7	1	2	17	0
	1130	..	1017.6	1008.2	..	20.9	12.7	3.1	8.1	33	..	1.0	..	10.5	0	2	27	6	13	3	1	0	0	2	2	2	2
Bhuj (Aerodrome)	1730	..	1013.8	1004.5	..	24.6	13.9	2.0	7.3	25	..	1.3	..	13.8	0	6	23	9	11	1	2	1	1	0	4	2	0
	2330	..	1016.2	1006.6	..	15.3	10.3	4.0	8.5	48	..	0.6	..	2.3	0	0	11	3	1	0	0	1	2	4	0	20	0
	0830	14	1017.4	1016.4 ⁽ⁱ⁾	..	15.2	10.9	6.0	9.6	56	..	1.5	..	9.1 ^(k)	0	0	19	11	1	0	0	0	0	2	5	1	0
Kandla	1730	..	1014.4	1013.2 ^(h)	..	23.9	15.3	7.2	10.4	36	..	1.3	..	14.5 ^(j)	0	5	16	11	4	0	0	1	2	2	1	0	0
	0830	9	1017.0	1015.9	..	15.0	11.8	8.1	11.3	67	..	0.9	..	14.0	0	4	25	5	22	1	0	0	0	0	1	2	0
Mandvi	1730	..	1013.5	1012.5	..	22.9	17.0	11.4	14.6	54	..	1.3	..	21.2	0	14	17	3	5	0	2	4	6	9	1	0	1
	0830	11	1016.7	1015.4	+0.1	17.8	14.1	10.7	13.1	64	-3	1.1	-0.5	7.9	0	0	23	3	15	3	1	0	0	0	1	8	0
Porbander	1730	..	1013.9	1012.6	..	23.4	15.3	7.9	10.8	41	..	0.8	..	15.1	0	4	26	9	8	1	0	0	0	0	0	1	0
	0830	7	1016.2	1015.4	..	17.2	13.9	10.7	13.2	68	..	1.5	..	9.3	0	0	31	12	17	1	0	0	0	0	0	1	0
Porbander (Aerodrome)	1730	..	1013.2	1012.4	..	26.1	18.3	11.9	14.8	44	..	0.6	..	11.7	0	0	31	8	1	0	0	0	0	0	3	19	0
	0830	7	1016.3	1015.5	..	17.3	13.0	9.5	11.5	63	..	0.8	..	9.5	0	3	25	6	11	3	6	1	0	0	1	3	0
Jamnagar	1130	..	1016.8	1016.0	..	24.5	15.6	9.0	10.6	39	..	0.8	..	17.4	0	10	21	4	16	2	1	1	3	1	3	0	0
	0530	23	1014.7	1012.0	..	12.7	10.2	7.6	10.4	72	..	0.7	..	10.5	0	1	30	2	6	4	7	3	3	5	1	0	0
	0830	..	1016.7	1014.1	-0.1	14.2	10.9	7.3	10.3	64	+4	1.3	+0.3	8.1	0	0	30	0	6	8	7	5	1	1	2	1	0
Jamnagar	1130	..	1017.3	1014.8	..	22.3	15.1	9.2	11.3	43	..	1.1	..	18.2	0	11	20	10	13	3	1	0	0	2	2	0	0
	1730	..	1013.6	1011.0	..	24.1	15.4	7.5	10.5	35	..	0.8	..	18.4	0	11	20	13	7	0	0	0	1	6	4	0	0
	0830	134	1016.8	1001.0	+0.2	14.2	9.9	4.1	8.8	54	+4	0.5	-1.0	5.0	0	0	23	1	11	2	2	2	2	2	1	8	0
Rajkot (Aerodrome)	1130	..	1016.6	1001.3	..	23.9	14.3	4.0	8.6	29	..	0.3	..	19.3	0	11	20	6	16	3	1	0	0	2	3	0	0
	1730	..	1012.9	997.7	..	26.3	14.9	2.1	7.8	23	..	0.6	..	19.3	0	14	16	6	9	1	0	0	1	5	8	1	0
	0830	74	1016.5	1007.7	..	15.1	10.2	4.2	8.5	49	..	1.3	..	5.9	0	0	31	7	4	1	1	0	2	2	14	0	0
Surendranagar	1730	..	1012.8	1004.3	..	26.6	15.0	2.4	7.																		

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Saurashtra & Kutch —Contd. Keshod	0830	51	1016.7	1010.7	..	17.9	13.0	8.4	11.0	56	..	1.1	..	9.7	0	1	30	2	14	15	0	0	0	0	0	0	0	0
	1130	"	1016.9	1010.9	..	24.5	16.4	10.9	12.2	44	..	1.0	..	16.6	0	7	24	7	17	4	0	0	1	1	1	0	0	
Veraval	0230	8	1014.2	1013.3	..	16.4	12.2	7.6	10.9	58	..	0.5	..	10.9	0	1	28	19	10	0	0	0	0	0	0	2	0	
	0530	"	1013.9	1013.0	..	15.5	11.4	6.5	10.2	59	..	0.8	..	13.5	0	4	26	17	13	0	0	0	0	0	0	1	0	
	0830	"	1015.8	1014.9	-0.1	17.2	12.4	6.9	10.5	54	+4	0.8	-0.3	12.7	0	4	25	15	14	0	0	0	0	0	0	2	0	
	1130	"	1016.3	1015.4	..	25.7	16.8	8.3	11.9	35	..	0.9	..	17.6	0	11	19	8	10	1	1	1	2	4	3	1	0	
	1730	"	1012.8	1011.9	..	24.8	19.1	15.2	17.4	55	..	1.2	..	20.5	0	18	13	0	3	0	0	2	3	14	9	0	0	
Konkan Dahanu	0830	5	1014.3	1013.8	+0.1	19.3	15.6	12.4	14.7	66	-11	1.5	-0.3	5.2	0	0	30	3	3	17	7	0	0	0	0	1	0	
	1730	"	1012.0	1011.5	..	24.9	20.3	17.2	20.0	64	..	1.0	..	29.0	0	23	8	28	0	0	0	0	0	0	3	0	0	
Bombay (Colaba)	0830	11	1014.7	1013.4	-0.3	21.4	18.9	17.2	19.8	78	+8	1.5	+0.2	4.8	0	0	31	7	15	8	1	0	0	0	0	0	0	
	1130	"	1015.0	1013.8	..	26.9	20.5	16.5	18.9	54	..	1.2	..	5.8	0	0	27	5	4	6	3	0	1	0	8	4	0	
	1730	"	1011.8	1010.6	..	26.2	21.0	18.0	20.7	61	..	1.0	..	14.8	0	3	28	5	0	0	0	0	0	3	23	0	0	
Bombay (Santacruz Aerodrome)	0230	15	1012.9	1011.2	..	19.5	16.6	14.2	16.5	73	..	0.5	..	4.7	0	0	22	7	11	2	1	0	0	0	1	9	0	
	0530	"	1012.7	1011.0	..	18.8	16.2	14.0	16.3	75	..	0.6	..	5.8	0	0	24	6	8	9	1	0	0	0	0	7	0	
	0830	"	1014.8	1013.1	-0.2	21.0	16.9	13.7	15.9	64	-1	1.4	+0.1	7.0	0	1	28	4	7	16	2	0	0	0	0	2	0	
	1130	"	1015.0	1013.3	..	27.7	18.9	12.4	14.7	40	..	1.4	..	12.5	0	1	29	7	5	6	2	1	0	3	6	1	0	
	1730	"	1011.9	1010.2	..	26.3	19.9	15.6	18.0	52	..	1.3	..	19.0	0	12	19	13	0	0	0	0	0	1	17	0	0	
Alibag	0330	7	1014.6	1013.8	-0.1	21.5	18.3	16.1	18.4	71	+6	1.7	+0.2	3.1	0	0	21	7	7	7	0	0	0	0	0	10	0	
	0830	20	1004.2	1011.9	+0.7	23.9	19.9	17.6	20.0	69	+2	1.9	..	6.9	0	1	25	5	8	7	2	2	0	0	2	5	0	
	1730	"	1011.2	1008.9	..	26.4	23.1	21.6	25.5	74	..	1.8	..	28.2	0	22	9	8	0	0	0	0	0	3	20	0	0	
	0830	35	1014.2	1010.2	+0.1	22.6	19.3	17.1	19.7	72	..	1.5	..	..	0	0	31	0	1	29	0	0	0	0	1	0	0
	1730	"	1011.0	1007.0	..	28.3	24.7	22.9	28.2	74	..	1.8	..	..	0	15	16	0	0	0	0	0	0	8	23	0	0
Devgad	0830	36	1014.1	1010.0	+0.4	23.5	20.6	18.8	21.8	76	+5	1.9	+0.5	9.9	0	0	31	4	12	15	0	0	0	0	0	0	0	
	1730	"	1010.7	1006.7	..	28.6	23.9	21.5	25.8	66	..	1.2	..	23.4	0	18	13	0	0	0	0	0	0	9	22	0	0	
	0230	9	1012.3	1011.3	..	21.8	20.0	18.8	22.0	83	..	0.2	..	2.8	0	0	13	11	2	0	0	0	0	0	0	18	0	
Vengurla	0530	"	1012.0	1011.0	..	20.3	18.9	17.7	20.7	87	..	0.3	..	1.9	0	0	12	10	2	0	0	0	0	0	0	19	0	
	0830	"	1014.0	1013.0	..	21.8	19.4	17.9	20.7	79	..	0.9	..	2.6	0	0	20	16	3	1	0	0	0	0	0	11	0	
	1130	"	1014.2	1013.2	..	30.3	21.6	16.2	17.8	44	..	0.5	..	7.2	0	0	28	5	2	4	8	1	4	1	3	3	0	
	1730	"	1010.9	1009.9	..	29.2	23.2	20.1	23.6	58	..	0.5	..	10.3	0	0	31	0	0	0	0	0	4	18	9	0	0	
	2330	"	1013.2	1012.2	..	23.3	20.7	19.2	22.2	78	..	0.3	..	3.9	0	0	15	11	1	0	0	0	0	0	3	16	0	
Maharashtra (Including Marathwada) Nandurbar	0830	206	1016.1	992.4	..	21.7	14.8	8.5	11.2	44	..	2.3	..	8.0	0	1	30	0	11	14	0	2	2	1	1	0	0	
	1730	"	1011.7	988.6	..	28.6	18.0	9.3	12.1	31	..	2.5	..	7.3	0	0	30	2	7	6	0	0	4	5	6	1	0	
Jalgaon	0830	201	1016.4	992.8	..	16.5	12.7	9.0	11.5	62	..	1.5	..	8.5	0	0	26	2	1	12	6	1	3	1	0	5	0	
	1730	"	1011.2	988.6	..	29.1	18.1	9.0	11.8	30	..	1.3	..	7.3	0	0	28	5	6	3	1	1	3	3	6	3	0	
Malgaoon	0830	437	1016.5	966.1	-0.1	16.8	12.5	8.0	11.1	57	+5	1.4	0	2.0	0	0	18	0	0	0	0	0	4	11	3	13	0	
	1730	"	1010.2	962.0	..	28.6	17.7	8.2	11.5	29	..	1.3	..	7.2	0	0	28	5	3	2	4	2	4	3	5	3	0	
Deolali	0830	571	1016.9	951.3	..	15.6	12.4	9.7	12.1	68	..	1.7	..	3.2	0	0	20	12	4	0	0	3	1	0	0	11	0	
	1730	"	1010.8	948.1	..	27.8	17.0	8.9	11.6	31	..	1.8	..	10.6	0	3	27	4	2	1	0	0	8	12	3	1	0	
Aurangabad	0330	581	1016.2	950.6	0	20.3	14.3	8.9	11.9	49	+2	2.2	+0.6	4.0	0	0	22	0	6	14	0	0	0	2	0	9	0	
	1730	"	1010.6	947.0	..	27.9	17.4	10.0	12.2	33	..	2.9	..	5.2	0	0	26	2	0	6	3	2	3	9	1	5	0	
Aurangabad (Chkal- thana Aerodrome)	0230	579	1014.5	948.0	..	15.2	11.8	8.7	11.5	66	..	1.0	..	2.3	0	0	9	0	0	2	1	0	0	4	2	22	0	
	0530	"	1014.9	948.0	..	13.1	10.4	7.8	10.7	71	..	1.0	..	0.8	0	0	3	0	0	0	0	0	0	3	0	28	0	
	0830	"	1016.2	950.2	..	17.8	13.5	9.9	12.4	60	..	1.8	..	1.0	0	0	4	0	0	2	0	0	0	1	1	27	0	
	1130	"	1014.6	950.3	..	25.1	17.4	12.0	14.3	44	..	1.5	..	8.4	0	2	25	0	1	1	10	10	2	3	0	4	0	
	1730	"	1010.1	946.5	..	27.6	18.0	11.3	13.7	37	..	2.7	..	6.4	0	1	21	1	0	4	4	1	3	7	2	9	0	
	2330	"	1014.7	948.8	..	17.3	12.9	9.1	11.6	60	..	1.3	..	3.4	0	0	11	3	1	0	1	0	0	5	1	20	0	
Ahmednagar	0830	657	1016.2	941.8	-0.1	17.4	13.0	9.6	11.4	59	+12	1.4 (m)	+0.1	4.2 (m)	0	0	27	0	0	10	0	0	0	0	17	4	0	
	1730	"	1009.5	938.8	..	28.7	18.5	11.9	13.0	36	..	1.7	..	3.6	0	0	26	0	5	0	5	0	10	0	6	4	0	
Parbhani	0830	423	1016.7	968.1	..	18.2	13.7	9.3	12.1	57	..	1.5	..	4.5	0	0	30	4	6	5	5	1	4	4	1	1	0	
	1730	"	1010.8	964.2	..	28.7	17.8	9.0	11.6	29	..	2.4	..															

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Total amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in gpm. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																												13
Poona (Lohagaoon Aerodrome)	0230	593	1013.6	946.4	..	17.7	13.8	10.7	13.0	64	..	1.1	..	3.3	0	0	13	2	0	2	1	0	0	1	7	18	0	
	0530	..	1014.2	946.4	..	15.9	12.9	10.4	12.7	71	..	0.9	..	2.1	0	0	12	2	0	2	0	0	0	2	6	19	0	
	0830	..	1015.9	948.5	..	17.8	13.8	10.5	12.9	63	..	1.9	..	3.6	0	0	17	0	2	7	1	1	1	3	2	14	0	
	1130	..	1013.9	948.4	..	25.8	16.5	9.3	12.0	36	..	1.9	..	9.2	0	1	24	1	0	14	5	1	0	3	1	6	0	
	1730	..	1009.4	944.7	..	23.5	17.3	8.8	11.6	30	..	2.2	..	14.2	0	10	15	1	0	3	3	0	0	12	6	6	0	
Baramati	0830	551	1016.3	953.5	..	17.7	13.5	10.0	12.5	62	..	1.1	..	5.5	0	0	22	1	1	5	5	1	0	2	7	9	0	
	1730	..	1009.1	949.2	..	29.8	19.0	11.4	14.0	33	..	1.5	..	8.2	0	0	29	1	2	6	6	3	4	4	3	2	0	
Murlapur	0830	521	1015.8	956.4	..	18.2	13.2	8.7	11.6	54	..	1.3	..	1.8	0	0	12	2	0	0	6	2	0	0	2	19	0	
	1730	..	1009.0	952.1	..	30.0	18.0	0.3	11.9	28	..	2.0	..	5.1	0	0	22	0	0	4	5	2	3	6	2	9	0	
Sholapur	0530	479	1013.9	959.3	..	18.7	13.9	10.2	12.5	59	..	0.6	..	7.4	0	1	24	1	5	1	14	0	2	0	2	6	0	
	0830	..	1015.8	961.5	+0.1	20.8	15.4	11.2	13.6	55	+7	1.3	0	8.0	0	0	31	0	6	0	18	0	2	0	5	0	0	
	1130	..	1014.6	961.4	..	26.8	18.2	12.5	14.6	42	..	1.1	..	10.0	0	0	29	2	6	1	10	3	7	0	0	2	0	
	1730	..	1009.6	957.2	..	30.1	18.4	10.6	12.7	30	..	2.1	..	4.6	0	0	30	0	11	0	9	0	7	0	3	1	0	
	2330	..	1013.5	959.6	..	22.5	15.0	8.8	11.6	42	..	0.6	..	10.8	0	0	30	1	6	0	19	0	2	0	2	1	0	
Miraj	0830	554	1015.6	952.8	-0.4	18.9	14.6	11.1	13.5	61	+2	1.5	-0.2	..	0	0	16	0	2	6	4	0	1	2	1	15	0	
	1730	..	1008.6	948.5	..	30.5	19.4	12.2	14.4	33	..	2.7	..	..	0	0	25	0	4	8	4	0	4	4	1	6	0
Kolhapur	0530	570	1013.4	948.5	..	17.0	14.4	12.4	14.6	75	..	0.2	..	2.7	0	0	22	1	5	7	0	1	4	3	1	9	0	
	0830	..	1015.5	951.0	..	19.4	15.1	11.9	14.0	63	..	0.9	..	3.4	0	0	21	1	9	7	1	1	1	1	0	10	0	
	1130	..	1013.4	950.7	..	27.2	18.1	12.1	14.0	40	..	0.9	..	9.6	0	2	27	1	3	10	10	1	1	3	0	2	0	
	1730	..	1008.8	946.8	..	29.5	18.2	10.2	12.6	31	..	1.1	..	10.2	0	2	28	1	5	7	1	0	2	11	3	1	0	
Vidarbha Buldhana	0830	650	1015.6	942.2	..	18.3	12.8	7.8	10.7	51	..	2.1	..	3.5	0	0	24	0	9	0	8	1	5	0	1	7	0	
	1730	..	1010.3	939.2	..	26.4	16.1	8.1	10.9	32	..	2.8	..	2.5	0	0	22	0	9	0	4	0	7	0	2	9	0	
Akola	0830	282	1016.3	983.6	-0.2	18.3	13.5	9.2	11.6	55	+1	2.3	+0.6	2.6	0	0	27	0	3	3	4	1	1	5	10	4	0	
	1130	..	1015.2	933.4	..	25.8	17.2	10.3	12.6	38	..	1.5	..	4.7	0	0	26	2	5	3	4	1	2	2	7	5	0	
Akola (Aerodrome)	1730	..	1010.7	979.3	..	28.9	17.6	8.1	10.9	27	..	3.4	..	3.0	0	0	25	2	2	3	5	3	1	3	6	6	0	
	0530	309	1013.9	977.8	..	15.1	11.7	8.1	11.1	64	..	1.4	..	3.7	0	0	27	1	0	14	8	0	0	4	0	4	0	
Amravati	2330	..	1013.9	978.4	..	20.2	14.0	8.0	10.9	47	..	1.3	..	3.6	0	0	25	1	2	10	8	0	1	2	1	6	0	
	0830	370	1016.6	974.2	+0.2	20.1	15.6	12.0	11.4	60	+11	2.7	+1.0	6.6	0	0	30	0	20	1	4	0	5	0	0	1	0	
Yeotmal	1730	..	1010.8	969.8	..	27.6	18.6	11.7	14.2	38	..	3.4	..	7.7	0	0	31	0	3	1	9	0	11	1	6	0	0	
	0830	451	1015.7	964.3	..	19.6	14.7	10.3	12.4	56	..	1.6	..	6.4	0	0	28	1	3	12	2	5	3	1	1	3	0	
Nagpur	1730	..	1011.2	961.1	..	26.5	17.3	8.5	12.4	32	..	1.9	..	5.9	0	0	27	2	5	7	3	5	3	0	2	4	0	
	0230	310	1014.5	978.3	..	16.0	14.3	12.3	15.0	82	..	1.2	..	3.5	0	0	24	11	4	2	0	0	1	2	4	7	0	
	0530	..	1015.0	978.6	..	14.5	13.4	12.3	14.5	87	..	1.6	..	3.6	0	0	21	9	5	1	0	0	0	0	0	6	10	0
	0830	..	1017.3	981.2	+0.1	17.0	15.0	13.2	15.5	79	+16	2.5	+0.7	2.3	0	0	16	8	2	2	2	0	0	0	0	2	15	0
	1130	..	1015.8	980.7	..	24.9	18.5	13.9	16.1	51	..	2.4	..	6.3	0	0	29	4	5	9	4	2	4	1	0	2	0	
	1730	..	1012.1	977.1	..	26.4	18.7	13.2	15.2	45	..	2.6	..	5.9	0	0	30	2	5	8	4	4	7	0	0	1	0	
Gondia	2330	..	1015.3	979.3	..	17.7	15.2	13.1	15.2	75	..	1.4	..	4.2	0	0	19	4	3	3	1	2	2	2	2	2	12	0
	0830	313	1017.5	981.1	..	17.3	14.8	12.6	14.8	74	..	2.1	..	2.8	0	0	23	4	4	3	3	1	2	0	3	8	3	
	1730	..	1012.7	977.4	..	25.6	18.0	12.3	14.5	45	..	1.9	..	2.1	0	0	19	4	0	0	0	0	6	0	4	12	5	
Brahmapuri	0830	229	1016.9	990.1	..	16.8	15.1	13.5	15.7	83	..	2.4	..	2.4	0	0	21	4	3	3	6	2	1	0	2	10	0	
	1730	..	1012.6	986.9	..	26.3	18.7	13.1	15.3	45	..	1.9	..	3.4	0	0	23	3	3	2	5	9	0	1	0	8	0	
Chanda	0830	193	1016.6	994.1	-0.2	18.9	15.9	13.6	14.4	72	+4	2.0	+0.4	2.9	0	0	26	2	2	14	6	0	1	0	1	5	0	
	1730	..	1011.9	990.1	..	26.8	19.1	13.7	15.9	45	..	1.8	..	3.1	0	0	22	0	3	9	8	0	0	0	2	9	0	
Sironcha	0830	123	1017.3	1002.8	..	19.7	17.3	15.6	17.3	77	..	2.1	..	4.0	0	0	27	5	2	9	9	1	1	0	0	4	0	
	1730	..	1012.4	998.5	..	28.5	19.8	13.8	16.1	41	..	1.2	..	4.3	0	0	30	4	3	9	11	2	0	0	1	1	0	
Coastal Andhra Pradesh Nellore	0530	20	1013.6	1011.2	..	20.9	20.2	19.9	23.1	94	..	1.4	..	1.8	0	0	14	1	1	0	2	0	0	0	10	17	0	
	0830	..	1016.0	1013.7	0	23.5	21.7	20.7	24.3	85	+1	1.5	-1.9	2.8	0	0	22	1	0	0	5	1	0	2	13	9	0	
	1130	..	1015.5	1013.2	..	28.6	22.8	19.7	23.3	59	..	4.0	..	6.3	0	0	29	0	12	6	10	0	0	0	1	2	0	
	1730	..	1012.8	1010.5	..	27.0	22.3	19.7	23.8	64	..	2.5	..	8.5	0	0	31	0	17	10	4	0	0	0	0	0	0	
	2330	..	1014.8	1012.5	..	22.5	21.2	20.4	23.9	88	..	0.9	..	1.1	0	0	8	0	2	1	4	0	0	0	1	23	0	
Ongole	0830																											

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	Wind direction													
															62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Coastal Andhra Pradesh— Gannavaram—contd.	0830	24	1016.2	1013.5	..	23.4	20.8	19.3	22.3	78	..	1.9	..	9.6	0	0	29	3	13	11	2	0	0	0	0	0	2	0
	1130	..	1015.6	1013.0	..	27.9	21.8	18.4	20.9	56	..	3.8	..	14.2	0	4	25	1	0	11	13	3	1	0	0	0	2	0
	1730	..	1012.3	1009.7	..	27.6	21.4	17.8	21.0	55	..	2.1	..	12.4	0	3	26	1	1	4	19	4	0	0	0	0	2	0
	2330	..	1014.7	1012.0	..	21.8	20.2	19.1	22.0	85	..	0.9	..	4.9	0	0	24	0	3	8	11	2	0	0	0	0	7	0
Masulipatam	0530	3	1014.2	1013.8	..	20.9	20.3	19.9	23.4	95	..	0.8	..	3.4	0	0	22	11	7	0	2	2	0	0	0	0	9	0
	0830	..	1016.4	1016.1	+0.1	24.0	22.1	21.1	25.1	84	+1	2.8	+0.9	9.0	0	0	31	11	10	4	2	3	0	1	0	0	0	0
	1130	..	1015.9	1015.6	..	27.2	23.1	21.1	22.1	69	..	3.7	..	12.0	0	1	28	0	2	13	11	3	0	0	0	0	2	0
	1730	..	1013.1	1012.8	..	25.8	22.6	21.1	24.8	75	..	1.2	..	14.0	0	1	30	0	0	2	23	6	0	0	0	0	0	0
Nidadavolu	0830	12	1016.7	1015.2	..	22.6	20.3	19.3	22.0	80	..	4.5	..	8.3	0	0	31	16	12	1	1	0	0	0	0	1	0	0
	1730	..	1012.8	1011.4	..	27.1	21.8	18.9	21.8	61	..	3.8	..	11.0	0	0	31	0	2	17	6	2	2	2	0	0	0	0
	0830	8	1017.0	1016.1	+0.6	25.8	22.4	20.6	24.4	73	-2	3.0	+0.3	9.0	0	0	30	0	21	3	5	0	0	0	0	0	0	0
	1730	..	1013.5	1012.6	..	25.9	22.5	20.7	24.5	73	..	1.8	..	10.2	0	0	31	0	8	3	20	0	0	0	0	0	0	0
Visakhapatnam	0230	3	1014.6	1014.2	..	20.4	19.3	18.6	21.5	90	..	1.6	..	1.5	0	1	6	0	0	1	0	0	1	3	5	19	0	
	0530	..	1014.8	1014.4	..	19.5	18.5	17.8	20.5	91	..	2.0	..	2.0	0	0	12	0	0	3	0	0	1	3	5	19	0	
	0830	..	1017.2	1016.8	+0.7	24.0	20.7	18.8	21.7	73	-2	1.9	-0.7	1.4	0	0	9	0	1	1	2	1	0	0	4	22	0	
	1130	..	1016.3	1015.9	..	28.0	22.1	18.7	21.9	58	..	3.1	..	6.6	0	0	27	1	0	9	10	1	3	1	2	4	0	
	1730	..	1013.8	1013.4	..	25.4	21.6	19.4	22.5	70	..	1.6	..	8.8	0	3	25	0	0	18	6	1	3	0	0	3	22	0
Cdingapatam	0830	6	..	..	..	..	..	..	..	..	..	3.0	+1.1	6.1	0	0	31	16	0	0	0	0	0	0	0	15	0	0
	1730	..	..	..	..	..	..	..	..	..	..	2.6	..	8.8	0	0	31	0	0	4	5	1	11	0	0	0	0	
Telangana Ramagundam	0830	156	1016.0	997.9	..	21.0	17.9	15.9	18.0	72	..	2.1	..	3.7	0	0	25	6	0	10	7	2	0	0	0	0	6	0
	1730	..	1011.6	994.2	..	29.3	19.7	12.9	15.6	37	..	1.3	..	4.4	0	0	30	5	6	6	9	3	1	0	0	1	13	0
N'zamabad	0830	381	1016.0	972.6	+0.2	21.5	16.9	13.5	15.5	61	-2	0.8	-0.6	2.0	0	0	18	2	0	8	6	1	0	0	0	1	13	0
	1730	..	1010.6	968.5	..	29.0	18.8	11.1	13.4	34	..	1.5	..	1.7	0	0	18	3	3	7	2	1	0	0	0	2	13	0
Mahbubnagar	0830	505	1015.6	958.6	..	21.0	17.4	15.1	17.3	70	..	1.3	..	8.2	0	0	29	1	5	15	7	0	1	0	0	0	21	0
	1730	..	1010.2	954.8	..	28.1	18.5	12.4	14.3	39	..	1.5	..	6.6	0	0	30	0	3	14	4	5	3	1	0	1	6	0
Hyderabad (Begumpet Aerodrome)	0230	545	1014.1	952.3	..	18.0	15.9	14.5	16.6	80	..	0.6	..	6.5	0	0	25	1	1	6	15	2	0	0	0	0	6	0
	0530	..	1014.7	952.5	..	16.7	15.5	14.7	16.8	89	..	1.1	..	4.9	0	0	22	0	1	7	13	0	1	0	0	0	9	0
	0830	..	1016.5	954.9	+0.6	19.6	17.0	15.3	17.5	77	+7	3.3	+1.1	7.5	0	0	23	0	1	2	18	1	0	0	0	1	8	0
	1130	..	1014.7	954.3	..	25.4	18.3	13.7	15.9	49	..	2.2	..	14.5	0	2	28	0	1	4	21	3	0	0	0	1	1	0
	1730	..	1011.0	951.1	..	27.1	18.0	11.9	14.0	39	..	1.8	..	10.2	0	0	30	1	3	6	18	0	1	0	0	1	1	0
Hakimpet	0530	613	1014.2	944.7	..	17.0	15.5	14.5	16.7	86	..	2.4	..	7.7	0	1	28	0	4	9	13	2	1	0	0	0	2	0
	0830	..	1015.7	946.6	..	19.5	16.6	14.5	16.6	75	..	3.4	..	12.9	0	3	28	0	4	4	19	3	1	0	0	0	0	0
	1130	..	1014.2	946.5	..	24.9	18.1	13.5	15.6	50	..	2.1	..	17.8	0	8	23	1	4	3	19	4	0	0	0	0	0	0
	1730	..	1010.9	943.7	..	26.4	18.1	12.6	14.6	43	..	2.0	..	12.0	0	1	30	3	2	5	16	0	2	0	3	0	0	0
Haanamkonda	0830	269	1016.1	985.5	-0.3	20.4	18.3	16.9	19.3	82	+9	1.9	-0.7	4.4	0	0	29	5	0	0	8	16	0	0	0	0	2	0
	1730	..	1012.1	982.1	..	28.3	19.5	13.1	15.5	40	..	0.5	..	4.5	0	0	31	4	4	1	17	5	0	0	0	0	0	0
Bhadrachallam	0830	111	1017.0	1004.2	..	21.1	18.8	17.3	19.9	79	..	2.2	..	4.0	0	0	24	3	10	7	4	0	0	0	0	0	7	0
	1730	..	1012.0	999.5	..	28.9	21.7	17.5	20.1	50	..	1.5	..	4.5	0	0	31	0	10	7	13	1	0	0	0	0	0	0
Khammameth	0830	112	1016.4	1003.5	..	21.4	19.3	18.4	20.6	82	..	2.4	..	2.4	0	0	15	3	0	6	4	2	0	0	0	0	16	0
	1730	..	1011.9	999.3	..	29.2	20.3	14.5	16.6	40	..	1.9	..	5.2	0	0	28	2	0	13	9	3	0	0	1	3	0	
Rayalaseema— Aroyavaram	0830	701	1016.0	937.5	..	19.2	17.4	16.4	18.5	84	..	2.2	..	1.9	0	0	15	0	0	1	6	6	2	0	0	0	16	0
	1730	..	1010.5	933.9	..	25.9	18.2	13.3	15.3	46	..	2.5	..	5.0	0	0	30	0	13	7	8	1	0	0	1	1	0	
Cuddapah	0830	130	1016.2	1001.3	+0.5	25.7	21.8	19.6	22.9	70	-4	1.5	-0.7	2.8	0	0	16	0	0	14	2	0	0	0	0	0	15	0
	1730	..	1011.5	996.9	..	29.1	22.9	19.6	23.0	57	..	1.0	..	9.9	0	0	31	0	1	30	0	0	0	0	0	0	0	
Anantapur	0530	350	1012.9	972.9	..	19.5	17.5	16.2	18.4	82	..	0.2	..	4.2	0	0	19	1	1	14	2	0	1	0	0	0	12	0
	0830	..	1015.3	975.4	..	21.9	18.6	16.5	18.8	72	..	1.1	..	4.0	0	0	17	0	0	12	3	1	0	0	1	14	0	
	1130	..	1014.0	975.0	..	26.9	19.6	14.6	16.6	44	..	0.6	..	9.3	0	0	31	1	2	21	4	2	1	0	0	0	0	
	1730	..	1009.6	971.0	..	29.6	19.7	12.8	14.8	36	..	1.4	..	11.9	0	1	28	0	7	18	3	0	1	0	0	2	0	
	2330	..	1013.1	973.6	..	23.4	18.8	15.8	17.9	63	..	0.5																

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Madras State—contd..																												
Pamban	0830	11	1014.7	1013.4	+0.7	26.5	23.5	22.0	26.5	77	-6	3.8	+0.5	10.1	0	0	31	7	22	1	0	0	0	0	0	1	0	0
	1730	"	1011.4	1010.1	..	26.6	23.5	21.9	26.9	76	..	3.1	..	16.1	0	7	24	2	28	1	0	0	0	0	0	0	0	0	0
Mathurai	0830	133	1014.8	999.6	+0.1	24.7	21.6	19.7	23.3	74	-5	4.2	+0.6	3.0	0	0	31	0	31	0	0	0	0	0	0	0	0	0
	1730	"	1010.3	995.4	..	29.4	21.7	17.0	20.5	50	..	5.0	..	3.0	0	0	31	1	27	0	3	0	0	0	0	0	0	0
Mathurai (Aerodrome)	0530	133	1013.4	998.1	..	21.5	20.5	19.9	23.3	91	..	3.7	..	3.0	0	0	28	18	10	0	0	0	0	0	0	0	3	0
	0830	"	1015.2	1030.0	..	24.6	21.6	20.0	23.3	76	..	2.9	..	6.4	0	0	30	15	13	1	0	0	0	0	0	1	1	0
	1130	"	1014.4	999.4	..	28.1	22.1	18.8	21.6	57	..	3.3	..	11.0	0	0	31	2	17	12	0	0	0	0	0	0	0	0
	1730	"	1010.7	995.8	..	29.4	21.7	17.0	19.6	48	..	3.0	..	8.7	0	0	31	0	6	25	0	0	0	0	0	0	0	0
Nagapattinam	0830	9	1015.3	1014.2	+0.8	25.8	22.9	21.4	25.5	77	-2	3.4	-0.9	14.1	0	8	22	4	18	2	0	0	0	0	0	6	1	0
	1730	"	1012.0	1010.9	..	26.8	23.2	21.4	25.0	72	..	3.1	..	20.7	0	12	19	2	24	4	1	0	0	0	0	0	0	0
Tiruchirappalli	0230	88	1012.9	1002.6	..	22.3	21.1	20.3	23.8	89	..	8.3	..	1.5	0	0	25	1	14	10	0	0	0	0	0	0	6	0
	0530	"	1013.1	1002.8	..	21.8	20.6	19.9	23.2	89	..	2.2	..	8.4	0	2	20	4	14	3	0	0	0	0	0	1	9	0
	0830	"	1015.4	1005.2	+0.1	24.2	21.6	20.0	23.3	78	-2	2.8	-0.1	10.5	0	1	25	5	20	0	0	0	0	0	0	1	5	0
	1130	"	1014.5	1004.5	..	28.4	22.6	19.4	22.5	58	..	4.5	..	16.3	0	6	24	2	26	2	0	0	0	0	0	0	1	0
	1730	"	1011.0	1001.1	..	29.0	22.8	19.3	23.2	57	..	2.9	..	18.2	0	9	22	0	10	20	1	0	0	0	0	0	0	0
	2330	"	1014.2	1004.0	..	23.0	21.7	21.0	25.0	88	..	1.3	..	11.9	0	2	28	0	15	15	0	0	0	0	0	0	1	0
Coimbatore	0830	409	1015.2	969.1	+0.4	22.6	19.5	17.6	20.1	74	-6	4.6	+1.2	14.3	0	0	31	0	9	16	6	0	0	0	0	0	0	0
	1730	"	1009.6	964.8	..	29.7	20.2	13.9	16.0	39	..	2.2	..	11.3	0	0	31	0	6	15	9	0	1	0	0	0	0	0
Coimbatore (Peelamedu Aerodrome)	0530	398	1013.3	967.8	..	19.8	18.5	17.6	20.2	88	..	3.1	..	5.0	0	0	23	3	10	6	0	0	1	0	3	8	0	
	0830	"	1015.1	970.0	..	22.1	19.9	18.4	21.0	80	..	4.0	..	11.1	0	1	30	0	20	11	0	0	0	0	0	0	0	0
	1130	"	1013.7	969.3	..	26.8	20.8	17.4	20.1	56	..	4.4	..	17.7	0	9	22	0	15	16	0	0	0	0	0	0	0	0
	1730	"	1009.5	965.5	..	29.5	21.0	15.6	18.0	44	..	2.1	..	15.0	0	2	29	0	10	19	1	0	1	0	0	0	0	0
	2330	"	1013.3	968.3	..	23.1	19.4	16.9	19.9	69	..	1.0	..	9.6	0	5	20	0	4	18	0	1	1	0	1	6	0	0
Salem	0530	278	1013.2	981.4	..	20.8	19.3	18.5	21.3	87	..	1.5	..	2.3	0	0	17	0	6	10	1	0	0	0	0	0	14	0
	0830	"	1015.2	983.6	+0.1	23.4	20.2	18.3	21.0	73	-3	1.9	-0.6	6.5	0	0	29	2	7	18	1	0	0	0	1	2	0	0
	1130	"	1013.9	982.9	..	28.7	22.2	18.4	21.1	54	..	3.2	..	5.8	0	0	30	0	8	16	5	1	0	0	0	1	0	0
	1730	"	1009.5	973.8	..	30.6	22.5	18.0	20.6	47	..	2.2	..	7.2	0	0	31	1	2	26	1	1	0	0	0	0	0	0
	2330	"	1013.4	962.0	..	24.1	21.4	20.0	23.4	76	..	1.3	..	12.6	0	2	28	0	3	25	2	0	0	0	0	0	1	0
Kallakurichi	0830	127	1015.4	1000.9	..	23.7	21.4	20.2	23.6	80	..	2.4	..	6.5	0	0	29	20	0	0	0	0	0	0	0	9	2	0
	1730	"	1010.8	996.6	..	29.2	22.3	18.3	21.3	52	..	2.8	..	12.3	0	1	30	0	32	9	0	0	0	0	0	0	0	0
Cuddalore	0530	12	1012.9	1011.5	..	21.5	20.7	20.1	23.5	92	..	3.0	..	3.2	0	0	1	1	0	0	0	0	0	0	0	0	30	0
	0830	"	1015.2	1013.8	+0.1	23.5	21.7	20.5	24.6	84	0	3.2	-0.3	2.3	0	0	16	8	4	0	0	0	0	0	0	4	15	0
	1130	"	1015.0	1013.6	..	27.8	22.9	20.3	23.8	64	..	3.0	..	6.4	0	0	31	1	25	2	3	0	0	0	0	0	0	0
	1730	"	1012.1	1010.7	..	26.5	22.5	20.4	24.0	69	..	1.4	..	4.6	0	0	27	2	17	6	2	0	0	0	0	0	4	0
	2330	"	1014.2	1012.8	..	24.9	21.9	20.4	24.0	76	..	1.8	..	1.5	0	0	12	2	6	2	2	0	0	0	0	0	19	0
Tirupattur	0830	390	1016.2	971.7	..	19.3	18.2	17.5	18.8	89	..	4.0	..	1.5	0	0	15	3	5	3	0	1	0	3	0	16	0	
	1730	"	1011.4	969.1	..	23.4	20.8	16.1	18.3	49	..	4.5	..	8.5	0	0	31	4	3	9	1	9	0	5	0	0	0	
Vellore	0530	214	1013.9	989.2	..	19.9	18.9	18.2	21.3	90	..	3.0	..	2.0	0	0	2	0	1	1	0	0	0	0	0	0	29	0
	0830	"	1015.9	991.3	+0.3	21.5	19.8	18.8	21.8	84	-2	3.3	+0.5	0.3	0	0	3	0	1	1	0	0	0	0	1	28	0	
	1130	"	1014.8	990.6	..	26.6	21.0	17.6	20.5	58	..	4.5	..	6.9	0	0	30	4	3	16	2	1	0	4	0	1	0	
	1730	"	1011.3	987.3	..	28.2	20.8	16.2	18.9	48	..	2.7	..	9.6	0	0	31	0	13	13	4	1	0	0	0	0	0	0
	2330	"	1014.5	990.1	..	23.4	20.5	18.7	21.9	75	..	1.9	..	3.7	0	0	19	1	1	17	0	0	0	0	0	0	12	0
Tamparam (Aerodrome)	0830	29	1015.4	1012.0	..	24.3	22.0	21.7	25.9	85	..	2.5	..	6.5	0	1	30	9	2	1	0	0	1	1	17	0	0	
Madras	0230	16	1013.3	1011.5	..	22.3	21.1	20.5	24.1	90	..	1.7	..	3.3	0	0	16	3	2	1	1	0	0	3	6	15	0	
	0530	"	1013.5	1011.7	..	21.6	20.8	20.3	23.8	93	..	1.9	..	4.7	0	0	24	2	2	1	0	0	1	9	9	7	0	
	0830	"	1015.9	1014.1	+0.5	23.7	21.5	20.9	24.7	85	+1	2.7	-0.4	6.5	0	1	29	7	2	0	0	1	7	13	1	0	0	
	1130	"	1015.3	1013.5	..	28.0	22.6	19.7	22.9	61	..	3.9	..	14.4	0	4	26	4	12	8	2	2	1	0	0	1	1	
	1730	"	1012.7	1010.9	..	26.7	22.3	19.8	23.1	66	..	2.4	..	13.7	0	2	29	4	11	14	2	0	0	0	0	0	0	0
Madras (Nungambakkam)	2330	"	1014.7	1012.9	..	23.5	21.6	20.7	24.4	85	..																	

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JANUARY, 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb.	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Coastal Mysore —contd. Mangalore .	0230	22	1011.4	1008.9	..	24.5	22.3	21.3	25.3	82	..	1.1	..	6.0	0	0	28	6	5	23	0	0	0	0	0	0	3	0
	0530	"	1011.5	1009.0	..	23.3	21.5	20.5	24.1	85	..	1.2	..	11.3	0	0	31	0	4	27	0	0	0	0	0	0	0	0
	0830	"	1013.7	1011.2	-0.1	24.7	21.5	19.7	22.9	74	+6	1.5	-0.5	11.1	0	0	31	0	1	29	1	0	0	0	0	0	0	0
	1130	"	1013.4	1010.9	..	29.8	22.4	18.1	20.8	50	..	1.5	..	11.7	0	3	27	0	1	12	3	0	3	3	8	1	0	0
	1730	"	1010.0	1007.5	..	28.8	23.6	21.0	24.9	63	..	1.5	..	15.8	0	2	29	2	0	0	0	0	1	11	17	0	0	0
	2330	"	1012.7	1010.2	..	25.8	23.7	21.7	25.9	78	..	1.3	..	7.5	0	0	28	8	12	7	0	0	0	0	0	1	3	0
Mangalore (Bajpe Aerodrome)	0530	103	1011.6	999.7	..	21.8	20.6	19.9	23.1	89	..	1.4	..	4.8	0	0	29	0	1	25	3	0	0	0	0	0	3	0
	0830	"	1013.8	1002.1	..	24.3	21.3	19.6	23.3	75	..	1.9	..	6.2	0	0	28	0	0	21	7	0	0	0	0	0	5	0
Interior Mysore (North) Bidar .	1730	"	1009.9	993.4	..	29.1	23.5	20.6	24.4	61	..	2.0	..	17.3	0	8	23	0	0	0	0	0	0	0	0	26	5	0
	0830	664	1015.9	941.1	..	19.1	15.5	12.7	15.0	67	+8	0.8	-1.3	12.6	0	0	31	0	2	4	14	3	5	1	2	0	0	0
Gulbarga	1730	"	1010.1	937.7	..	27.4	17.5	10.4	12.0	35	..	2.2	..	10.3	0	0	31	1	7	8	6	0	7	0	0	0	0	0
	0830	458	1016.0	964.2	+0.4	22.6	16.3	12.1	14.3	54	-2	2.0	+0.7	13.0	0	3	28	2	4	9	11	5	0	0	0	0	0	0
Bijapur	1730	"	1009.9	959.7	..	29.7	17.5	8.4	11.1	27	..	2.1	..	16.9	0	11	16	1	2	9	7	5	1	1	1	3	4	0
	0830	594	1015.5	943.6	+0.1	20.2	16.6	13.9	16.1	68	+8	1.0	-0.5	4.3	0	0	27	4	0	2	8	6	3	1	0	9	0	0
Belgaum .	1730	"	1008.8	944.3	..	29.8	20.4	14.9	17.2	42	..	2.1	..	2.2	0	0	22	3	1	5	6	2	4	1	0	9	0	0
	0830	753	1015.0	931.2	+0.1	20.3	15.7	12.3	14.7	61	-2	0.5	-1.0	2.6	0	0	20	4	1	9	3	0	0	0	0	3	1	0
Belgaum (Sambre Aerodrome)	1730	"	1009.4	928.2	..	28.4	17.9	10.4	12.9	33	..	1.4	..	7.9	0	0	31	0	4	7	5	5	5	4	1	0	0	25
	0530	747	1013.3	929.6	..	17.9	15.3	13.7	15.4	77	..	0.2	..	1.5	0	0	6	0	0	4	2	0	0	0	0	0	0	13
	0830	"	1015.0	931.8	..	20.5	16.9	14.8	16.6	70	..	0.7	..	4.7	0	0	18	0	2	5	8	3	0	0	0	0	0	3
	1130	"	1013.4	931.6	..	25.5	19.7	16.7	18.6	59	..	0.8	..	12.6	0	1	27	0	1	5	10	10	1	1	0	3	0	0
Gadag .	1730	"	1008.8	928.4	..	28.3	21.0	17.4	19.6	51	..	1.0	..	11.4	0	2	29	0	1	4	12	5	6	2	1	0	0	0
	0830	650	1015.0	942.4	0	21.3	17.4	14.8	17.0	67	+5	1.0	-0.4	10.3	0	0	30	1	4	15	7	0	0	1	4	1	2	0
Gadag (P.B.O.)	1730	"	1009.2	938.8	..	29.2	19.7	13.8	16.1	39	..	1.3	..	8.4	0	0	29	0	6	15	2	0	1	4	1	2	9	0
	0530	661	1012.8	938.6	..	18.9	15.4	13.4	15.0	71	..	0.3	..	10.2	0	2	20	0	0	7	13	0	0	1	2	9	0	0
	0830	"	1014.9	941.0	..	20.6	16.8	14.7	16.4	70	..	1.1	..	11.2	0	6	16	0	0	6	13	0	0	2	2	4	0	0
	1130	"	1013.4	940.9	..	26.2	18.4	14.3	15.3	48	..	1.0	..	13.1	0	4	23	1	0	10	12	0	0	1	3	0	8	0
Raichur .	1730	"	1009.3	937.5	..	27.7	18.3	13.0	14.2	42	..	1.5	..	7.3	0	1	22	0	1	15	3	0	1	2	0	7	1	5
	2330	"	1013.2	939.6	..	21.7	15.8	12.1	13.7	55	..	0.5	..	9.9	0	0	26	0	0	15	1	2	4	3	1	2	2	0
	0830	400	1015.3	969.9	-0.3	21.6	18.2	15.7	18.3	70	+6	3.2	+1.7	5.3	0	0	29	0	2	5	12	4	3	1	2	2	0	0
	1730	"	1010.1	966.1	..	29.4	19.3	12.3	14.1	36	..	3.8	..	4.3	0	0	27	1	7	7	8	1	1	1	1	4	0	0
Interior Mysore (South) Bellary .	0830	449	1015.5	964.5	0	20.9	18.0	15.9	18.3	74	+10	1.0	-1.1	3.7	0	0	28	1	1	0	23	0	3	0	0	0	3	0
	1730	"	1009.5	960.3	..	29.9	19.4	11.8	14.1	33	..	1.8	..	5.4	0	0	31	0	0	0	28	0	2	0	1	0	0	0
Chitaldrug .	0830	733	1014.8	933.2	+0.2	20.8	16.8	14.3	16.2	67	+5	1.9	-0.3	7.4	0	0	27	0	0	15	8	1	3	0	0	0	4	0
	1730	"	1008.7	929.6	..	28.5	17.1	8.3	11.1	29	..	1.2	..	3.5	0	0	20	0	1	17	1	0	0	1	0	11	0	0
Shimoga .	0830	571	1015.0	950.6	..	19.7	16.9	15.1	17.3	75	..	1.0	..	1.7	0	0	16	0	3	4	1	4	3	0	1	15	0	0
	1730	"	1008.0	946.2	..	30.0	18.8	11.3	13.6	32	..	1.1	..	5.8	0	0	30	0	2	17	2	1	2	6	0	1	0	0
Balehonnur .	0830	"	..	..	..	17.5	16.7	16.1	18.3	93	+20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hasan .	0830	960	1533.6	901.1	..	18.6	16.2	14.6	16.6	77	+5	2.0	-0.5	4.3	0	0	22	0	0	17	5	0	0	0	0	0	9	0
	1730	"	1517.7	905.7	..	27.0	17.4	10.7	13.0	36	..	1.4	..	5.0	0	0	27	0	0	21	3	0	0	3	0	4	0	0
Mysore .	0830	767	1015.0	929.5	+0.1	19.7	17.3	15.8	18.6	79	+8	2.5	-0.2	14.3	0	3	28	0	13	4	5	1	6	0	2	0	0	0
	1730	"	1008.7	925.9	..	28.1	17.8	10.4	12.9	34	..	2.9	..	14.5	0	5	26	2	11	10	0	0	3	1	4	0	0	0
Bangalore (Central Observatory)	0230	921	1511.6	911.2	..	17.4	16.2	15.3	17.4	88	..	2.0	..	11.9	0	0	31	0	0	17	13	0	1	1	1	0	0	0
	0830	"	1536.5	913.6	+0.5	18.6	16.6	15.2	17.4	81	+3	3.7	+0.7	12.2	0	0	31	0	0	15	13	1	1	1	0	0	0	0
	1130	"	1544.0	913.0	..	24.0	17.9	14.1	16.0	54	..	1.8	..	10.8	0	0	29	0	0	17	10	0	1	1	0	2	0	0
	1730	"	1518.6	910.2	..	25.6	17.4	11.9	14.3	43	..	2.1	..	10.8	0	0	31	0	2	13	13	0	1	2	0	0	0	0
Bangalore (Aero-drome)	0530	897	1511.0	914.1	..	17.1	16.1	15.5	17.6	90	..	3.8	..	8.2	0	0	22	0	5	16	1	0	0	0	0	0	6	0
	0830	"	1538.5	916.3	..	19.1	16.7	15.2	17.3	79	..	4.3	..	11.2	0	1	24	0	0	23	2	0	0	0	0	0	6	0
	1130	"	1548.5	915.9	..	25.2	18.3	13.9	16.5	50	..	2.1	..	11.6	0	1	24	0	0	21	1	2	1	0	0	0	6	0

Division and station.	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable		
																												Wind direction	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Kerala—contd.																													
Fort Cochin . . .	0830	3	1013.5	1013.2	+0.3	27.1	23.0	21.1	24.8	70	0	4.2	+2.3	6.8	0	0	29	1	19	8	1	0	0	0	0	0	2	0	
	1730	"	1009.5	1009.2	..	28.8	24.2	22.0	26.4	67	..	3.9	..	8.4	0	1	30	0	1	0	0	0	0	3	21	6	0	0	
Cochin (Naval Air Station)	0230	3	1011.9	1011.6	..	24.9	24.1	23.8	29.5	94	..	2.0	..	1.6	0	0	14	0	5	8	0	0	0	1	0	0	17	0	
	0530	"	1012.1	1011.8	..	23.4	22.8	22.3	27.4	94	..	1.8	..	2.5	0	0	17	2	3	11	0	0	0	0	1	0	14	0	
	0830	"	1013.6	1013.3	..	25.7	23.1	21.7	26.1	79	..	2.4	..	6.2	0	0	31	1	13	16	1	0	0	0	0	0	0	0	
	1130	"	1013.1	1012.8	..	30.1	25.2	22.9	27.5	66	..	1.8	..	7.7	0	0	31	2	5	9	0	4	1	5	5	0	0	0	
	1730	"	1010.5	1010.2	..	29.5	26.5	25.3	32.0	78	..	2.5	..	13.5	0	2	29	1	0	0	0	0	0	5	19	6	0	0	
Alleppey . . .	0830	4	1013.1	1012.7	..	26.9	23.1	21.2	25.1	71	..	3.1	..	5.2	0	0	31	0	1	16	13	1	0	0	0	0	0	0	
	1730	"	1009.3	1008.9	..	29.7	24.7	22.3	27.1	65	..	3.2	..	16.5	0	0	31	0	0	0	0	0	0	0	17	14	0	0	
Punalur . . .	0830	34	1013.4	1009.5	..	24.4	22.2	21.1	25.0	82	..	0.9	..	1.3	0	0	9	0	1	4	3	0	1	0	0	0	22	0	
	1730	"	1009.0	1005.2	..	32.5	26.5	23.8	29.7	61	..	2.3	..	6.9	0	0	30	0	4	8	14	2	1	1	0	0	1	0	
Trivandrum . . .	0230	64	1010.9	1003.7	..	24.1	22.0	20.9	24.9	83	..	1.2	..	4.2	0	0	28	6	11	8	1	1	0	0	0	1	3	0	
	0530	"	1011.0	1003.7	..	23.2	21.3	20.2	24.2	83	..	1.5	..	4.8	0	0	28	6	14	4	0	0	0	0	0	4	3	0	
	0830	"	1013.1	1005.8	+0.3	25.6	22.2	20.3	24.1	73	-4	1.9	-0.7	3.8	0	0	30	0	15	3	8	0	2	0	2	1	0	0	
	1130	"	1012.4	1005.2	..	30.7	23.0	18.7	21.9	49	..	3.0	..	5.0	0	0	29	2	3	2	3	0	10	5	4	2	0	0	
	1730	"	1010.0	1002.8	..	28.9	23.4	20.4	24.3	61	..	2.8	..	5.6	0	0	31	2	1	0	1	3	22	1	1	0	0	0	
Trivandrum (Aerodrome).	2330	"	1012.6	1005.3	..	25.4	22.7	21.3	25.6	78	..	1.7	..	3.8	0	0	26	8	8	4	0	0	2	2	2	5	0	0	
	0830	8	1013.1	1012.2	..	26.2	22.5	20.5	24.4	71	..	2.8	..	3.7	0	0	22	13	4	0	0	0	0	1	4	9	0	0	
Arabian Sea Islands																													
Minicoy*	0530	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"
	2330	"
Amini Divi*	0830	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hill Stations excluding Kashmir																													
Walong (R.)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kohima . . .	0830	1406	1552.9	865.0	..	11.5	8.4	5.4	8.9	68	..	2.7	..	..	..	..	..	1	3	4	12	6	4	0	1	0	0	
	1730	"	1530.7	863.0	..	11.6	9.4	7.3	10.3	76	..	4.0	..	..	..	..	..	1	0	0	0	1	12	8	9	0	0	
Aijal . . .	0830	1097	..	..	..	15.1	11.2	7.7	10.8	62	..	1.9	..	2.9	0	0	31	1	3	12	1	2	2	9	1	0	0	
	1730	"	..	..	..	17.4	12.9	8.3	11.6	57	..	2.2	..	4.3	0	0	31	0	0	3	0	0	8	20	0	0	0	
Shillong . . .	0830	1500	1521.5	852.3	-0.3	11.5	7.8	3.3	8.0	60	-10	2.4	+0.9	0.8	0	0	4	0	0	0	0	1	3	0	0	0	27	0	
	1730	"	1497.6	850.0	..	10.8	9.3	7.9	10.9	81	..	5.6	..	0.1	0	0	1	0	0	0	0	0	1	0	0	0	0	30	0
Cherapunji . . .	0830	1313	1521.4	871.4	-0.1	12.2	10.2	8.8	11.1	81	+18	0.8	-1.2	3.8	0	0	31	0	0	0	1	0	8	0	1	0	0	0	
	1730	"	1483.3	869.2	..	11.3	10.2	9.0	11.5	85	..	8.0	..	3.8	0	0	31	0	15	0	0	0	16	0	0	0	0	0	
Darjiling (Raj-Bhawan)	0830	2128	1547.2	793.1	+3.8	6.0	4.9	3.9	7.9	86	+22	5.8	+2.4	0.6	0	0	6	1	0	0	0	0	4	1	0	25	0		
	1730	"	1513.6	789.7	..	5.3	4.7	4.1	8.2	93	..	6.9	..	0.7	0	0	7	0	0	0	0	0	3	4	0	24	0		
Kalimpong . . .	0830	1209	1449.6	875.8	-7.2	11.6	9.9	8.9	11.1	81	+6	2.2	-0.2	3.0	0	0	31	0	0	0	1	0	0	0	0	30	0	0	
	1730	"	1448.6	875.7	..	11.9	10.3	9.2	11.3	81	..	2.4	..	3.0	0	0	30	0	0	0	30	0	0	0	0	0	1	0	
Katmandu (Hydromet).	0830	1324	1523.1	871.1	..	5.0	4.6	4.1	8.2	94	..	5.6	..	0.1	0	0	1	1	0	0	0	0	0	0	0	0	30	0	
	1130	"	1521.3	870.3	..	13.8	9.6	5.1	9.0	57	..	3.4	..	1.2	0	0	9	2	1	2	0	0	0	0	0	4	22	0	
	1730	"	1497.8	868.0	..	11.9	8.8	5.5	9.0	66	..	3.1	..	2.2	0	0	12	3	0	0	0	1	0	8	19	0	0	0	
Mukteswar(Kumaon)	0830	2311	3115.9	773.1	-0.1	5.3	1.3	-6.3	4.3	52	+3	3.0	-0.1	10.3	0	1	29	1	3	6	3	2	3	6	6	1	0		
	1730	"	3106.1	771.8	..	6.7	3.5	-7.0	6.0	62	..	3.1	..	8.3	0	2	25	0	0	2	1	1	6	11	6	4	0		
Nainital . . .	0830	1953	1514.2	806.0	..	5.0	1.8	-3.4	4.8	59	..	3.2	..	3.8	0	0	15	1	2	2	2	0	0	4	4	16	0		
	1730	"	1493.1	804.5	..	6.6	4.0	0.2	6.6	67	..	3.5	..	5.5	0	0	29	1	0	2	2	1	1	22	0	2	0		
Joshimath . . .	0830	..	..	..	..	5.5	1.3	-6.6	4.1	47	..	3.3	..	6.5	0	0	29	0	2	9	7	3	1	1	0	2	0	
	1730	..	..	..	..	7.5	3.3	-2.3	5.0	52	..	4.2	..	6.9	0	0	31	0	0	1	1	15	10	0	0	0	4	
Badrinath . . .	0830	..	..	..	..	Closed during winter months			..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lokpal . . .	0830	..	..	..	..	-9.6	-10.8	-14.4	1.7	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mussooree . . .	0830	2042	1505.9	797.2	-0.7																								

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrometeorological Observatories—contd.																											
Narbada Catchment	0830	..	..	..	..	17.6	13.2	8.9	11.7	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Punasa	1730	..	..	..	..	27.5	17.3	8.7	11.6	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagra Tawa	0830	..	..	..	..	16.6	13.1	9.7	12.3	65	..	2.0	..	6.7	0	0	24	2	12	6	0	1	1	2	0	7	0
	1730	..	..	..	..	24.6	16.6	10.0	12.4	41	..	1.5	..	5.3	0	0	24	1	10	6	0	0	5	2	0	7	0
Thikri Sabarmati Catchment	0830	..	..	..	..	18.7	14.8	11.7	13.7	65	..	3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jhadol	0830	..	..	..	..	11.6	8.7	5.6	9.2	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi	0830	..	..	..	..	16.2	10.7	4.2	8.4	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	24.7	14.7	4.1	8.7	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment	0830	..	..	..	..	7.0	3.2	-2.1	5.3	55	..	0.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mukhim	1730	..	..	..	..	8.1	4.4	0.6	6.0	57	..	4.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tehri	0830	..	..	..	..	6.9	6.5	6.1	9.4	95	..	3.8	..	0.9	0	0	8	1	1	3	1	1	1	0	0	23	0
	1130	..	..	..	..	13.3	9.7	6.0	9.5	62	..	3.1	..	1.3	0	0	14	2	1	3	1	0	0	5	2	17	0
	1730	..	..	..	..	15.8	11.3	6.9	10.2	56	..	3.6	..	2.5	0	0	19	0	0	2	6	9	2	0	0	12	0
Gandak Catchment	0830	..	..	..	..	11.5	9.8	8.2	10.9	81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorkha	1730	..	..	..	..	12.2	9.6	6.9	10.0	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	0830	..	..	..	..	11.3	9.8	8.3	11.1	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	14.5	12.4	10.9	12.9	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	0830	..	..	..	..	12.3	10.3	8.4	11.1	78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.2	11.3	7.7	10.6	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	0830	..	..	..	..	1.2	-0.9	-4.1	4.6	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	3.7	2.6	-1.0	5.7	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	5.1	1.9	-2.6	5.0	57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.7	6.3	2.9	7.4	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region), Dailekh†	0830	..	..	..	..	9.4	6.7	3.3	7.8	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.7	7.9	3.6	8.0	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dandeluhura (R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(R)	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	16.5	13.4	10.9	12.9	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.5	15.6	12.8	14.6	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Katmandu†	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment	0830	..	..	..	..	8.9	6.9	5.0	8.7	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chautara	1730	..	..	..	..	12.9	8.2	3.4	7.8	52	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga	0830	..	..	..	..	8.4	6.9	5.0	8.7	80	..	4.7	..	0.8	0	0	8	1	1	1	2	3	0	0	0	23	0
	1130	..	..	..	..	11.9	8.7	5.8	9.2	67	..	5.1	..	1.3	0	0	14	0	0	0	0	3	6	5	0	17	0
	1730	..	..	..	..	9.0	7.1	5.3	8.9	78	..	5.3	..	1.2	0	0	10	0	2	0	0	1	1	6	0	21	0
Barahshetra	0830	146	1019.1	1001.7	..	13.3	12.3	11.2	13.3	88	..	3.1	..	5.9	0	0	28	3	2	1	0	0	11	3	8	3	0
	1130	..	1016.8	999.9	..	19.7	15.3	11.9	13.8	61	..	3.7	..	9.9	0	1	28	1	0	0	0	1	11	12	4	2	0
	1730	..	1014.7	997.5	..	16.9	14.6	12.8	14.8	77	..	3.9	..	6.1	0	0	29	0	5	14	3	2	2	1	2	2	0
Angbung	0830	..	..	..	..	11.8	9.5	7.2	10.2	74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.1	10.8	6.7	9.9	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	7.3	5.9	4.7	8.5	83	..	4.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	10.9	7.9	5.1	8.8	68	..	3.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.2	6.8	4.5	8.4	72	..	3.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	10.2	7.4	4.3	8.4	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
†	1730	..	..	..	..	12.3	8.7	5.1	8.7	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	0830	..	..	..	..	2.5	-0.3	-4.2	4.5	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	-0.1	-1.2	-2.9	5.0	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhoipur	0830	..	..	..	..	9.9	7.5	5.1	8.8	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	8.6	7.6	6.6	9.8	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	0830	..	..	..	..	11.6	9.2	6.8	9.9	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	12																					

**MONTHLY MEANS OF UPPER WINDS,
JANUARY 1959 (PAUSA 11—MAGHA 11, 1880 SAKA)**

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9·0 km. a.m.s.l. are given under Table IV and data above 9·0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0·15 km. a.g., 0·3, 0·6, 0·9, 1·5, 2·1, 3·0, 3·6, 4·5, 5·4, 6·0, 7·2, 9·0, 10·5, 12·0, 14·1, 16·2, 18·0, 21·0, 24·0, 27·0, 30·0, 33·0 and 36·0 km. a.m.s.l. Of these, the levels 1·5, 3·0, 5·4, 7·2, 9·0, 12·0, 14·1 and 16·2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No. Station	Lat. N.	Long. E.	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
1 Agartala	23°53'	91°15'	17	28th November 1951	0530	1730	2330
2 Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330
3 Amausi	26°45'	80°53'	132	20th November 1950	0530	1730	2330
4 Ambala	30°23'	76°46'	279	1st April 1941	0530	1730	2330
5 Amritsar	31°38'	74°52'	243	21st June 1957	0530*	1730*	
6 Anantapur	14°41'	77°37'	364	12th February 1946	0530	1730	2330
7 Asansol	23°41'	86°59'	135	29th May 1942	0530	1730	2330
8 Baghdogra	26°38'	88°19'	140	7th June 1953	0530	1730	2330
9 Bairagarh	23°17'	77°21'	532	26th February 1943	0530	1730	2330
10 Bamrauli	25°27'	81°44'	103	28th February 1930	0530*	1130	1730* 2330
11 Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330
12 Bareilly	28°22'	79°24'	180	12th January 1943	0530	1730	
13 Begumpet	17°27'	78°28'	543	1st September 1929	0530	1730	2330
14 Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730	
15 Bhubaneswar	20°15'	85°50'	54	5th December 1942	0530	1730	2330
16 Bhuj	23°15'	69°48'	90	14th September 1937	0530	1730	2330
17 Bikaner	28°00'	73°18'	229	18th October 1946	0530	1730	2330
18 Chikalhana	19°51'	75°24'	583	7th October 1951	0530	1730	2330
19 Cochin†	09°56'	76°14'	3	16th March 1942	0530	1730	2330
20 Darjeeling	27°03'	88°16'	2115	21st May 1956	0830	1730	
21 Dehra Dun	30°19'	78°03'	692	1st October 1958	0530	1730	
22 Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730* 2330
23 Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330
24 Gannavaram	16°32'	80°48'	34	8th April 1942	0530	1730	2330
25 Gauhati	26°05'	91°43'	51	12th March 1955	0530*	1130	1730* 2330
26 Gaya	24°45'	84°57'	119	19th March 1937	0530	1730	2330
27 Gopalpur	19°16'	84°53'	24	15th February 1946	0530	1730	2330
28 Gorakhpur	26°45'	83°22'	83	5th January 1943	0530	1730	
29 Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330
30 Imphal	24°51'	93°58'	805	8th March 1952	0530	1730	2330
31 Jabalpur	23°10'	79°57'	402	30th July 1928	0530	1730	2330
32 Jagdalpur	19°05'	82°02'	562	25th March 1948	0530	1730	2330
33 Jaipur	26°49'	75°48'	404	6th June 1953	0530	1730	
34 Jamshedpur	22°49'	86°11'	147	23rd July 1942	0530	1730	
35 Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330
36 Jodhpur	26°18'	73°01'	229	15th October 1934	0530*	1130	1730* 2330
37 Madras	13°00'	80°11'	29	8th April 1926	0530*	1130	1730* 2330
38 Mangalore	12°52'	74°51'	40	4th June 1928	0530	1730	2330
39 Minicoy	08°18'	73°00'	16	14th April 1941	0530	1730	2330
40 Mohanbari	27°29'	95°01'	112	1st June 1948	0530	1730	2330
41 Nagpur	21°06'	79°03'	316	23rd April 1943	0530*	1130	1730* 2330
42 Nanpara	27°50'	81°30'	142	23rd April 1957	0530	1730	
43 New Delhi	28°35'	77°12'	227	28th October 1936	0530*	1130	1730* 2330
44 Poona	18°32'	73°51'	593	5th January 1925	0530	1730	2330
45 Port Blair	11°40'	92°43'	93	29th October 1945	0530*	1130	1730* 2330
46 Raipur	21°14'	81°39'	308	15th July 1944	0530	1730	2330
47 Raxaul	26°59'	84°51'	83	28th October 1957	0530	1730	
48 Santa Cruz	19°07'	72°51'	14	14th May 1933	0530*	1130	1730* 2330
49 Tezpur	26°37'	92°47'	79	12th August 1932	0530	1730	2330
50 Tiruchirapalli	10°46'	78°43'	96	22nd June 1936	0530	1730	2330
51 Trivandrum	08°29'	76°57'	73	8th December 1928	0530*	1130	1730* 2330
52 Udaipur	24°35'	73°42'	587	24th June 1947	0530	1730	2330
53 Vengurla	15°52'	73°38'	8	22nd November 1941	0530	1730	2330
54 Veraval	20°54'	70°22'	17	13th October 1941	0530*	1130	1730* 2330
55 Visakhapatnam	17°43'	83°14'	10	24th September 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.4	0.1	100	31	0.8	0.4	313	31	0.4	0.1	186	31	2.3	1.5	035	31	2.6	1.5	345	31	2.3	1.5	355				
0.15 a.g.	30	3.5	1.4	026	31	3.3	1.7	311	31	3.7	1.4	229	31	8.0	5.3	048	31	3.9	2.2	337	31	7.4	5.1	355				
0.3 a.m.s.l.	30	3.2	1.4	003	31	2.9	1.6	282	31	3.5	1.6	302	31	7.4	4.6	053	31	4.3	2.1	338	31	7.0	4.6	356				
0.6 "	30	3.2	1.1	329	31	2.8	1.7	253	31	3.6	1.7	283	31	5.8	2.2	038	31	3.9	1.9	340	31	5.5	2.8	011				
0.9 "	29	3.3	1.4	286	31	3.1	2.1	252	30	3.9	2.0	275	31	4.6	0.6	295	31	4.1	1.7	330	31	4.4	0.8	031				
1.5 "	29	5.8	4.6	278	30	5.7	4.6	273	30	6.0	4.8	271	31	6.2	3.0	226	31	5.3	2.3	268	31	5.0	1.5	236				
2.1 "	28	9.7	8.9	286	29	9.7	8.2	285	30	9.1	8.1	289	31	7.4	4.7	243	31	6.9	4.8	251	31	7.8	5.1	247				
3.0 "	15	11.3	9.8	287	24	10.9	9.6	275	29	12.7	12.4	275	29	9.5	7.6	247	30	10.4	9.0	255	30	9.6	8.0	254				
3.6 "	3	14.9	14.2	260	8	12.8	12.1	274	8	15.2	14.6	276	8	11.1	10.2	257	29	11.6	10.1	263	3	12.4	11.7	241				
4.5 "	1	16.0	16.0	260	3	17.1	16.0	285	3	21.1	20.6	291	1	18.0	18.0	255	28	14.9	13.8	270								
5.4 "					2	22.1	20.1	270	1	15.4	15.4	185					26	18.0	16.6	267								
6.0 "									1	17.5	17.5	285					24	20.4	20.2	274								
7.2 "																	6	25.0	23.1	281								
9.0 "																	1	40.1	40.1	265								

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.5	0.4	330	31	1.7	0.7	300	31	1.7	0.6	310	31	2.1	0.5	302	31	2.3	0.7	290	31	2.3	1.0	315				
0.15 a.g.	27	6.6	1.1	004	30	3.6	1.8	289	30	4.8	2.7	314	31	6.7	3.1	339	31	5.7	1.6	306	31	6.5	3.4	326				
0.3 a.m.s.l.	27	6.4	1.1	007	30	3.7	1.7	287	30	4.6	2.6	311	31	3.0	1.2	328	31	2.9	1.0	289	31	3.2	1.3	312				
0.6 "	27	5.3	0.8	304	29	3.9	2.6	285	30	4.0	2.8	300	31	6.4	2.4	337	31	6.4	1.1	296	31	6.2	2.8	325				
0.9 "	27	5.4	2.6	228	29	4.5	3.5	286	30	3.9	3.3	296	29	5.6	1.0	332	30	5.5	1.5	317	29	5.0	1.2	299				
1.5 "	23	7.7	6.5	277	29	6.0	5.5	289	28	5.9	5.1	278	25	5.1	0.9	145	30	5.5	0.1	228	29	5.2	1.2	203				
2.1 "	21	8.0	6.7	273	27	8.3	7.6	286	24	8.0	7.4	283	24	5.2	0.9	156	30	5.7	0.7	167	26	5.1	1.1	190				
3.0 "	9	9.4	8.8	260	25	11.2	10.6	287	12	9.8	9.3	274	23	6.3	2.5	229	29	5.8	1.6	213	23	4.5	2.2	235				
3.6 "	1	17.0	17.0	295	20	12.6	11.4	285	2	10.0	9.7	275	7	7.0	2.8	244	29	5.9	2.1	233	7	7.0	5.3	267				
4.5 "					12	14.4	13.1	290					1	7.7	7.7	230	27	9.0	6.7	273	2	8.7	8.5	258				
5.4 "					6	15.9	14.2	282					1	11.8	11.8	230	26	13.1	11.3	273	1	16.0	16.0	265				
6.0 "					4	18.0	16.0	277					1	12.4	12.4	240	25	15.9	12.3	274	1	16.0	16.0	280				
7.2 "					2	26.7	22.1	279									19	21.0	18.4	276								
9.0 "					1	54.5	54.5	250									9	34.8	29.7	283								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 Km. above mean sea level

January 1959 (Pauca II—Maha II, 1950 Saka)

Station	BAIRAGARH								BAMRAULI																			
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.2	0.8	308	31	2.9	2.0	050	30	1.1	0.3	041	31	2.2	1.1	319	31	1.3	0.5	357	31	1.2	0.5	292				
0.15 a.g. . .	31	3.4	0.9	309	31	6.1	4.2	064	30	5.4	1.4	001	29	3.0	1.6	308	30	4.5	2.2	323	28	5.2	2.2	299				
0.3 a. m. s. l. . .									30	5.4	1.4	001	29	3.0	1.7	308	30	4.5	2.2	322	28	4.9	1.7	304				
0.6 " . . .	31	3.4	1.0	309	31	6.7	4.4	062	29	4.3	1.2	031	29	3.7	2.9	303	30	4.3	2.6	310	27	4.5	2.9	288				
0.9 " . . .	31	3.4	0.9	295	31	5.1	1.5	070	29	4.9	3.4	286	26	4.9	3.8	295	30	5.4	4.0	292	27	4.9	3.9	283				
1.5 " . . .	31	4.0	2.3	251	31	5.5	3.7	236	29	7.4	6.2	282	26	7.7	6.5	286	30	7.5	6.3	278	25	7.7	7.0	275				
2.1 " . . .	31	6.7	5.3	248	30	7.4	6.1	245	29	9.6	8.9	280	25	9.0	8.0	275	30	10.5	9.1	278	24	9.1	8.5	283				
3.0 " . . .	29	11.3	9.9	259	30	10.7	9.3	255	30	12.4	11.4	272	24	12.5	11.8	276	30	12.6	9.8	273	13	11.8	11.2	295				
3.6 " . . .	28	12.7	11.4	262					30	13.6	12.8	271	22	13.8	13.2	275	30	14.9	13.6	273	4	11.8	11.0	294				
4.5 " . . .	26	16.2	14.6	263					30	18.0	16.1	271	20	17.6	16.8	272	30	18.3	16.8	272								
5.4 " . . .	20	19.1	17.5	260					30	22.0	20.9	269	16	21.5	21.0	265	29	24.8	20.0	269								
6.0 " . . .	16	22.6	20.6	260					30	24.3	24.0	272	10	24.6	24.1	261	28	22.7	20.9	268								
7.2 " . . .	4	23.9	23.1	280					28	31.7	28.3	267	6	29.1	28.8	257	28	31.2	29.0	267								
7.0 " . . .									22	35.1	31.1	267	1	49.9	49.9	255	28	39.9	34.7	265								

Station	BANGALORE								BARBILLY								BEGUMPET											
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	4.0	3.5	103	31	3.3	2.7	107	31	4.3	3.9	114	31	1.6	0.7	353	31	1.6	0.6	322	31	0.9	0.8	118				
0.15 a.g. . .	18	6.5	6.0	106	31	4.0	3.4	101	30	8.8	8.5	108	27	5.7	2.5	334	30	3.7	1.7	287	30	5.5	4.7	131				
0.3 a. m. s. l. . .													28	5.8	2.8	336	30	3.7	1.7	289								
0.6 " . . .													27	5.0	1.1	311	30	4.8	2.8	289	30	3.5	2.8	120				
0.9 " . . .													27	4.4	1.2	286	30	5.3	3.3	288	30	7.0	5.9	128				
1.5 " . . .	17	6.2	3.7	115	31	4.1	3.6	100	30	6.9	5.6	122	27	5.2	2.9	289	30	5.0	3.6	289	30	5.0	0.4	054				
2.1 " . . .	16	3.7	2.3	105	30	3.9	3.0	099	29	4.4	1.6	111	26	5.2	3.9	271	29	5.8	4.2	289	30	4.6	1.9	278				
3.0 " . . .	13	4.1	0.7	133	28	3.1	1.6	151	28	4.6	2.2	222	21	6.6	6.1	264	28	7.5	5.7	284	30	5.1	4.1	247				
3.6 " . . .	12	4.6	1.4	188	27	3.4	1.4	189	26	4.8	1.7	160	9	9.8	9.2	266	25	9.8	8.2	285	30	6.9	6.2	249				
4.5 " . . .	8	6.2	1.9	248	25	4.9	2.7	222	23	4.8	2.5	196	1	3.6	3.6	290	24	14.4	12.9	282	20	8.5	6.8	248				
5.4 " . . .	2	7.2	6.0	007	23	6.3	2.3	270	9	7.8	1.3	252					20	18.8	17.0	280	10	8.2	5.9	249				
6.0 " . . .	2	5.1	3.0	010	22	7.5	4.7	276	4	7.7	5.1	314					12	22.3	19.4	280	1	6.7	6.7	340				
7.2 " . . .	1	5.1	5.1	300	21	10.2	7.4	275									2	25.2	25.1	274								
9.0 " . . .	1	14.9	14.9	280	19	14.5	11.5	258																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa 11—Magha, 11, 1880 Saka)

Station	BIKANER				CHIKALTHANA								COCHIN											
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	0.8	0.7	005	31	0.6	0.1	158	31	1.9	0.8	214	31	1.7	0.9	335	31	0.8	0.7	059	31	3.6	3.2	257
0.15 a.g.	31	4.6	3.6	064	31	5.8	2.9	078	31	3.6	1.4	223	31	6.2	3.0	036	31	3.4	2.7	077	30	4.4	3.9	287
0.3 a.m.s.l.	31	5.0	2.8	069													31	3.0	1.9	081	30	4.0	3.5	278
0.6 "	31	5.7	2.0	063													31	2.3	1.1	084	30	3.1	1.7	335
0.9 "	31	4.7	0.7	269	31	5.6	2.6	117	31	3.5	1.6	225	31	5.7	2.7	058	31	2.7	1.5	101	30	3.6	2.5	038
1.5 "	31	5.6	2.5	244	31	4.8	3.0	188	31	3.4	1.7	234	31	4.2	2.0	177	31	3.3	2.2	072	30	5.3	5.1	079
2.1 "	30	6.4	4.2	269	31	5.8	4.9	222	31	4.2	2.7	233	31	5.6	4.5	207	31	4.2	3.4	264	30	6.0	5.7	091
3.0 "	26	9.1	7.3	276	29	7.9	7.2	252	27	6.7	5.3	246	29	7.2	6.5	237	28	4.1	2.9	110	28	4.0	3.2	099
3.6 "	18	11.2	9.0	275	26	9.9	8.8	261	23	9.3	7.5	255	16	9.8	9.2	253	25	4.4	3.0	106	19	3.4	2.6	104
4.5 "	2	11.8	11.8	240	6	11.6	10.6	268	18	12.7	11.2	264	2	13.1	13.1	251	14	4.2	1.9	136	12	3.9	2.4	085
5.4 "									17	15.3	13.3	259					9	4.2	1.0	175	5	7.0	3.4	136
6.0 "									17	17.0	14.8	263					7	4.3	0.4	290	3	11.2	5.3	346
7.2 "									4	25.7	24.3	268					4	3.4	0.6	342				
9.0 "																	1	1.5	1.5	320				

Station	COCHIN				DARJEELING								DEHRA DUN				DUM DUM							
	2330				0830				1730				0530				1730				0530*			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	0.7	0.3	047	31	0.7	0.3	236	31	0.8	0.6	245	31	1.1	0.9	019	31	1.0	0.7	256	31	0.2	0.2	001
0.15 a.g.	29	2.5	0.6	010	10	1.7	1.1	222	8	2.6	1.2	277	28	1.3	0.5	113	29	2.8	1.6	261	31	3.3	1.2	015
0.3 a.m.s.l.	29	2.7	0.7	007																	31	3.4	1.4	353
0.6 "	29	3.3	0.9	049																	31	3.8	1.5	287
0.9 "	29	3.5	2.0	084									28	1.4	0.9	116	29	2.7	1.5	260	31	4.6	3.1	298
1.5 "	29	3.9	3.1	093									27	1.9	0.6	149	28	2.2	0.3	074	31	6.5	5.4	296
2.1 "	29	4.4	3.9	085									26	3.4	1.7	131	25	3.3	1.1	148	31	9.1	7.8	291
3.0 "	25	5.2	4.3	098	10	4.8	2.6	275	8	9.0	8.8	282	23	4.5	1.5	167	24	4.3	2.3	138	31	11.5	10.8	284
3.6 "	14	4.1	2.4	114	9	8.5	7.4	279	6	16.1	16.0	272	23	5.5	1.4	205	24	5.0	1.5	140	31	13.7	13.2	280
4.5 "	4	4.0	2.3	134	6	8.6	7.6	282	1	18.0	18.0	275	19	9.4	6.3	265	23	7.6	3.7	270	31	16.1	15.4	277
5.4 "	3	1.9	1.1	258	3	13.9	12.7	307					17	14.5	12.0	264	19	11.6	8.9	271	31	20.4	19.4	269
6.0 "	1	3.1	3.1	230	2	16.0	15.1	302					8	17.0	15.7	257	17	15.6	13.4	276	31	23.1	21.8	266
7.2 "					1	6.2	6.2	004					2	22.4	21.1	259	13	21.2	19.1	266	31	27.6	26.2	268
9.0 "					1	24.2	24.2	320									5	27.2	23.0	263	26	36.5	34.6	265

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa 11—Magha 11, 1880 Saka)

Station	DUM DUM												GADAG															
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.5	0.5	341	31	0.4	0.3	318	31	1.2	0.5	052	31	3.9	2.9	122	31	2.2	1.5	097	31	4.2	2.1	098				
0.15 a. g. .	30	2.3	0.8	328	31	3.3	1.7	328	31	4.2	1.1	052	31	8.3	6.4	117	31	4.3	2.4	101	31	9.2	5.0	097				
0.3 a.m.s.l.	30	2.3	1.0	331	31	3.3	1.9	326	31	3.8	0.9	030																
0.6 "	30	3.1	2.0	306	31	3.2	1.9	314	31	3.6	1.2	328																
0.9 "	30	4.5	3.2	292	31	3.7	2.5	308	31	4.5	2.8	301	31	8.5	6.3	119	31	4.6	3.0	098	31	9.1	5.1	100				
1.5 "	28	6.8	5.8	292	31	6.1	5.4	301	31	7.6	6.7	303	31	4.8	2.2	112	31	4.6	2.8	105	31	5.9	4.1	105				
2.1 "	24	9.4	8.3	291	31	9.0	8.0	295	30	9.4	8.3	296	31	3.2	0.5	137	31	4.5	2.4	113	31	4.1	1.9	116				
3.0 "	21	12.9	11.9	285	31	11.8	11.0	284	20	10.6	9.2	292	30	4.9	2.3	213	31	4.3	1.8	199	31	4.5	2.2	211				
3.6 "	18	14.5	14.3	277	31	12.8	12.0	275	2	11.6	11.5	258	30	5.7	3.1	236	31	5.3	3.0	231	30	5.3	3.3	233				
4.5 "	15	18.0	17.7	269	31	17.0	16.4	272	1	14.9	14.9	275	28	6.8	4.1	250	30	8.1	5.4	248	27	8.1	5.8	260				
5.4 "	12	22.4	22.3	264	31	20.2	19.4	270					14	10.4	8.8	257	30	9.9	7.5	256	19	10.4	7.9	272				
6.0 "	9	25.9	25.7	265	31	22.0	21.3	267					9	10.5	8.6	268	29	11.1	9.3	257	11	10.9	7.6	280				
7.2 "	4	26.8	26.6	264	31	26.5	25.7	266									27	14.5	12.4	271	3	17.0	13.5	247				
9.0 "	1	33.9	33.9	265	30	37.3	35.4	266									20	20.7	18.6	263								

Station	GANNAVARAM												GAUHATI															
	0530				1730				2330				0530				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.9	1.7	062	31	3.4	3.0	132	31	1.7	1.4	110	31	0.4	0.1	050	31	2.1	0.8	010	31	1.0	0.6	065				
0.15 a. g. .	29	4.7	4.0	092	31	4.6	4.0	127	30	6.3	5.8	128	31	2.7	0.8	089	30	2.7	1.3	015	31	4.3	1.4	027				
0.3 a.m.s.l.	29	4.9	4.1	122	31	4.7	4.2	126	30	6.7	6.2	128	31	3.0	1.0	093	30	2.5	0.8	039	31	4.0	0.9	026				
0.6 "	30	5.5	4.6	130	31	4.2	3.4	124	31	6.0	5.5	120	31	3.2	1.0	099	30	2.9	1.1	079	31	3.5	0.7	035				
0.9 "	30	5.7	4.6	125	31	3.8	2.7	112	31	4.9	3.8	104	31	3.9	1.0	090	29	3.6	0.7	131	31	3.7	1.5	306				
1.5 "	29	4.7	2.1	094	31	4.7	1.9	056	29	5.3	2.3	091	31	4.1	0.5	224	26	4.0	1.6	196	31	5.1	2.8	238				
2.1 "	28	4.3	0.5	063	30	4.5	1.5	345	28	4.3	0.3	199	31	5.8	1.4	238	26	6.0	3.2	243	31	7.5	5.0	246				
3.0 "	25	4.6	2.3	247	28	4.9	3.5	276	26	5.0	3.5	254	31	11.6	4.2	278	21	10.3	8.6	272	31	12.8	11.8	269				
3.6 "	17	4.8	3.7	247	27	6.5	5.5	269	19	6.5	5.8	258	31	17.1	15.8	276	17	16.0	14.8	268	31	17.5	17.4	281				
4.5 "	14	7.1	5.8	244	26	9.4	8.5	260	8	8.2	7.2	253	29	21.6	20.1	275	15	19.2	18.4	267	31	21.9	21.6	271				
5.4 "	11	8.7	7.1	251	23	12.3	10.5	259	4	8.6	6.0	252	29	25.5	23.7	267	6	23.3	21.5	266	31	26.1	25.1	271				
6.0 "	9	11.1	10.6	249	22	13.7	11.6	256	1	12.9	12.9	275	29	27.9	26.7	275	3	27.2	27.0	269	31	28.8	28.1	270				
7.2 "	3	13.2	13.1	262	15	16.3	14.0	269					29	31.0	29.2	274	1	22.1	22.1	275	31	40.3	31.2	268				
9.0 "					3	21.8	20.0	250					9	44.6	39.7	280					14	39.2	38.6	275				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	GAUHATI				GAYA								GOPALPUR											
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.3	125	31	1.5	0.3	187	31	2.2	1.1	352	31	1.2	0.1	270	31	2.4	2.1	328	31	3.6	2.6	152
0.15 a.g.	30	2.8	0.7	132	29	4.2	0.7	293	30	4.8	2.9	330	30	4.0	1.8	345	30	4.1	1.6	297	31	4.5	2.8	148
0.3 a.m.s.l.	30	3.1	0.5	071	29	4.1	1.0	315	30	4.6	2.9	328	30	4.1	1.7	330	30	3.6	0.6	228	31	4.6	2.6	146
0.6 "	30	3.5	0.8	065	29	4.4	2.0	294	30	4.3	2.7	302	30	5.1	3.1	309	29	3.2	1.1	189	31	3.3	0.9	134
0.9 "	30	3.3	0.2	028	27	5.7	4.1	277	30	5.8	4.3	279	30	5.8	4.0	280	29	2.8	0.5	190	31	3.3	1.3	299
1.5 "	29	3.3	1.0	230	26	8.6	7.5	281	30	8.6	7.5	285	30	7.6	6.3	286	29	4.1	1.3	337	31	4.9	2.8	319
2.1 "	25	4.0	2.0	258	22	10.4	9.8	284	27	10.3	9.8	285	25	10.4	9.4	271	28	4.6	3.3	310	31	5.2	4.1	307
3.0 "	12	10.6	8.6	264	8	12.2	10.8	290	14	12.4	11.6	289	16	11.4	10.5	283	28	8.5	7.5	276	29	8.2	7.3	284
3.6 "	6	13.9	13.3	257	1	10.3	10.3	305	4	17.2	17.0	269	5	15.2	12.9	294	21	8.5	8.4	293	28	10.4	9.7	274
4.5 "	3	15.8	14.6	269													13	10.1	9.1	263	25	13.0	12.7	271
5.4 "	2	11.6	10.0	250																	21	14.7	13.2	266
6.0 "	2	12.4	11.3	251																	20	16.9	14.7	265
7.2 "																					10	21.4	21.1	253
9.0 "																								

Station	GOPALPUR				GORAKHPUR				GWALIOR															
	2330				0530				1730				0530				1730				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.8	1.0	235	31	1.5	0.4	282	31	1.3	0.7	277	31	0.9	0.1	006	31	1.6	1.1	020	31	0.6	0.3	114
0.15 a.g.	31	3.1	2.3	187	29	5.3	2.4	296	30	4.0	2.5	273	28	5.4	2.0	025	31	3.9	2.5	006	31	5.1	2.1	050
0.3 a.m.s.l.	31	3.4	2.6	180	29	5.6	2.7	292	30	4.3	2.8	271	29	4.4	1.5	025	31	3.4	2.2	009	31	4.3	1.6	051
0.6 "	31	3.3	2.0	168	29	5.3	2.8	285	30	4.4	2.9	271	28	5.6	1.6	359	31	4.4	2.2	360	29	4.8	1.1	008
0.9 "	31	3.0	0.7	141	29	5.2	3.0	285	30	4.9	3.4	278	27	5.2	1.9	307	30	4.4	2.3	310	29	5.1	2.1	283
1.5 "	29	4.2	2.3	337	26	7.0	6.1	290	30	7.4	6.4	290	26	6.8	5.0	272	29	6.0	5.1	273	29	6.0	4.2	271
2.1 "	28	4.9	3.7	303	23	9.1	8.5	288	27	9.6	9.0	290	25	8.2	6.6	268	28	8.7	7.5	280	29	8.0	6.7	268
3.0 "	24	8.9	7.9	281	18	9.4	8.6	287	21	11.8	10.8	285	22	11.2	10.0	263	28	11.7	10.4	273	23	9.7	8.7	268
3.6 "	18	9.3	8.5	274	9	9.1	8.4	280	12	11.7	10.9	290	10	10.8	8.8	263	26	13.5	12.3	273	14	11.7	10.8	261
4.5 "	8	7.4	6.8	257	3	7.2	7.2	302	5	12.5	12.1	290	3	16.1	10.5	306	23	16.8	14.9	277	3	14.9	14.7	258
5.4 "	3	9.4	9.3	214	1	3.6	3.6	300	1	12.9	12.9	325	2	20.1	17.0	305	19	19.0	16.9	271	1	25.2	25.2	240
6.0 "	2	11.1	11.1	230	1	3.6	3.6	295	1	14.9	14.9	335	1	22.7	22.7	290	18	21.7	18.2	268				
7.2 "	1	9.8	9.8	235									1	22.7	22.7	290	8	25.4	23.8	260				
9.0 "																	1	42.2	42.2	255				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	IMPHAL												JABALPUR															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.3	0.1	181	31	2.2	1.9	251	31	0.4	0.2	285	31	1.3	0.6	107	31	1.7	0.7	015	31	1.2	0.7	098				
0.15 a.g. . .	24	1.3	0.4	223	30	4.0	3.7	248	30	1.9	0.9	229	29	5.1	1.9	133	31	3.7	1.3	006	31	5.3	2.3	087				
0.3 a.m.s.l. .																												
0.6 " . . .													29	5.6	1.9	141	31	4.0	1.6	003	31	5.6	2.3	088				
0.9 " . . .	24	1.0	0.3	238	30	4.0	3.7	248	30	1.4	0.5	229	28	6.0	2.2	202	31	4.0	1.4	326	31	5.1	1.4	099				
1.5 " . . .	24	3.6	2.8	257	30	4.3	4.0	245	30	4.1	3.3	248	28	6.1	4.5	251	31	4.9	3.0	274	31	5.3	2.7	259				
2.1 " . . .	20	6.7	6.1	260	29	7.6	6.8	251	29	6.9	6.2	255	27	7.2	5.9	268	30	7.6	6.1	272	29	7.9	6.3	265				
3.0 " . . .	16	14.9	11.4	270	22	14.4	14.1	271	23	13.9	13.6	270	26	10.2	9.1	277	29	10.1	9.2	268	27	10.4	5.6	272				
3.6 " . . .	9	19.0	18.7	270	10	16.2	15.6	270	17	16.6	16.2	270	23	12.5	11.4	280	27	13.4	12.3	268	17	12.1	11.2	275				
4.5 " . . .	1	19.0	19.0	275	1	16.5	16.5	280	3	15.8	15.1	269	16	15.4	13.2	271	23	17.6	16.4	269	4	15.1	13.7	287				
5.4 " . . .	1	26.2	26.2	270					2	16.2	16.0	276	4	17.2	16.5	258	21	23.1	21.5	268								
6.0 " . . .									2	19.8	19.6	278	1	14.9	14.9	265	17	23.3	22.0	271								
7.20 " . . .																	6	25.4	23.6	278								
9.0 " . . .																	1	41.7	41.7	260								

Station	JAGDALPUR												JAIPUR												JAMSHEDPUR			
	0530				1730				2330				0530				1730				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.3	0.1	270	31	1.1	0.4	220	31	0.5	0.3	126	31	1.7	1.2	045	31	1.7	0.3	320	31	0.9	0.3	298				
0.15 a.g. . .	26	3.4	0.7	089	26	4.0	0.1	162	26	5.1	1.5	121	31	4.6	2.9	061	31	3.7	0.6	310	31	2.9	0.9	320				
0.3 a.m.s.l. .																					31	2.9	0.9	334				
0.6 " . . .	26	2.0	0.2	179	26	2.8	0.4	214	26	3.7	1.2	114	31	4.7	2.1	061	31	3.9	0.7	313	31	3.3	1.0	282				
0.9 " . . .	26	3.9	0.5	116	26	3.8	0.1	270	26	4.9	1.4	128	31	4.9	0.6	241	31	3.9	1.1	287	31	4.2	2.3	276				
1.5 " . . .	25	4.1	1.0	228	26	2.6	0.9	303	26	3.2	0.9	218	31	6.3	3.4	258	31	4.8	2.9	283	29	7.3	5.3	280				
2.1 " . . .	25	4.9	1.9	274	26	4.1	1.8	292	26	4.7	2.5	265	30	7.6	6.0	271	31	6.6	4.9	276	28	9.6	8.6	295				
3.0 " . . .	24	6.8	5.7	276	24	7.9	6.4	277	24	8.2	7.2	270	26	10.5	8.9	277	29	10.4	8.7	273	18	11.3	10.5	291				
3.6 " . . .	16	7.6	6.9	261	24	10.1	9.0	273	13	8.9	7.8	276	20	12.3	9.7	274	28	12.9	11.2	273	6	10.8	10.1	278				
4.5 " . . .	10	9.2	8.6	252	19	12.9	11.5	267	11	10.2	8.6	256	2	18.0	18.0	292	25	16.2	14.5	273								
5.4 " . . .	5	12.0	11.3	244	14	13.7	12.7	264	5	11.0	10.3	253					16	19.0	18.3	262								
6.0 " . . .	1	8.7	8.7	235	13	15.6	14.5	262	4	12.5	12.1	259					9	18.5	17.6	263								
7.2 " . . .	1	9.8	9.8	260	9	20.3	19.7	255									2	24.5	23.8	285								
9.0 " . . .					4	26.2	26.1	257																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha, II, 1880 Saka)

Station	JAMSHEDPUR				JHARSUGUDA								JODHPUR															
	1730				0530				1730				2330				0530*				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.2	0.4	015	31	11.5	1.0	025	31	1.5	1.0	200	31	2.1	0.1	344	31	3.2	2.8	034	31	3.0	1.8	050				
0.15 a.g. . .	31	2.9	1.5	027	30	4.0	1.7	070	30	3.4	2.5	218	29	4.0	1.3	172	31	3.6	2.7	032	31	3.5	1.9	045				
0.3 a.m.s.l. .	31	2.9	1.4	026	30	3.9	2.5	056	30	3.3	2.5	211	29	3.8	0.7	179	31	4.1	3.4	035	31	3.3	2.0	041				
0.6 " . . .	31	3.4	1.6	353	30	3.4	0.6	233	30	3.4	2.0	243	29	3.8	1.5	219	31	5.5	3.7	024	31	4.2	1.4	034				
0.9 " . . .	31	3.8	2.0	322	30	3.9	2.0	265	30	3.3	2.2	268	29	3.8	2.7	249	31	4.3	1.4	324	31	4.7	1.1	024				
1.5 " . . .	30	6.2	5.0	285	30	5.0	3.8	283	30	5.0	3.6	303	29	4.1	2.7	276	31	5.6	2.6	269	31	5.7	1.6	280				
2.1 " . . .	29	9.3	8.2	289	28	7.4	6.3	297	29	6.6	4.8	299	28	6.3	5.3	284	31	7.4	4.7	260	30	7.3	4.2	260				
3.0 " . . .	18	12.5	11.7	286	28	9.0	8.4	288	26	10.0	9.3	281	26	10.2	8.8	286	31	10.4	7.6	260	29	9.9	7.8	260				
3.6 " . . .	5	15.1	13.9	282	16	11.7	11.4	286	22	13.4	12.4	282	18	12.5	10.9	281	31	12.9	10.6	255	27	11.7	9.2	261				
4.5 " . . .	2	14.4	14.3	269	1	23.2	23.2	270	13	17.2	16.3	280					29	16.2	15.2	254	21	15.2	12.8	268				
5.4 " . . .									4	21.7	21.6	267					29	19.7	18.1	259	19	17.1	15.3	272				
6.0 " . . .																	29	22.1	20.1	259	15	19.0	17.4	270				
7.2 " . . .																	29	25.8	24.8	264	5	25.2	23.0	270				
9.0 " . . .																	25	40.1	37.2	263								

Station	JODHPUR				MADRAS																							
	1730*				2330				0530*				1130				1730*				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.1	1.4	005	31	3.1	2.5	029	31	1.9	1.1	051	31	3.5	2.6	073	31	4.1	2.1	070	31	2.2	1.5	069				
0.15 a.g. . .	31	3.4	1.4	006	31	7.0	4.6	032	30	6.2	5.5	076	31	4.8	3.8	075	31	7.0	6.4	098	31	5.3	4.4	077				
0.3 a.m.s.l. .	31	3.7	1.7	358	31	6.3	4.4	028	30	6.1	5.5	071	31	4.7	3.8	070	31	6.6	6.0	081	31	5.7	4.8	077				
0.6 " . . .	31	4.9	2.6	359	31	6.9	4.3	048	30	5.6	5.0	076	31	4.4	3.5	063	31	6.0	5.4	078	31	5.7	4.9	076				
0.9 " . . .	31	4.0	1.2	345	31	5.8	1.7	063	30	5.3	4.5	076	30	4.6	3.7	060	31	5.4	2.2	105	31	5.7	4.8	070				
1.5 " . . .	31	4.5	1.5	280	30	5.6	3.0	245	30	5.3	3.5	078	25	4.8	3.7	064	31	4.6	3.5	060	31	4.9	3.5	072				
2.1 " . . .	31	6.9	4.5	257	29	7.4	4.9	264	30	5.0	2.9	081	18	4.8	2.4	060	31	4.4	2.3	076	31	4.1	2.8	089				
3.0 " . . .	30	10.4	8.1	252	22	9.3	7.9	272	30	4.2	2.2	108	11	3.9	1.4	185	31	4.4	1.0	262	28	3.9	0.4	114				
3.6 " . . .	29	13.2	10.4	256	4	10.0	8.9	298	30	4.7	1.9	138	11	4.7	1.5	204	31	4.6	2.1	240	19	4.0	0.1	115				
4.5 " . . .	28	15.1	13.6	262					30	5.3	2.1	212	9	5.3	1.5	214	31	5.0	1.9	240	5	5.1	0.7	213				
5.4 " . . .	27	20.2	18.7	263					30	6.7	2.8	247	9	6.8	2.3	264	31	6.6	3.6	252	2	4.4	4.3	246				
6.0 " . . .	27	23.3	21.6	265					30	7.7	4.0	257	9	8.5	3.9	270	31	8.0	5.3	262								
7.2 " . . .	26	30.3	25.9	266					31	8.7	5.3	270	3	8.4	6.8	243	31	9.7	6.9	275								
9.0 " . . .	22	39.6	37.2	266					30	13.5	10.7	265	2	17.0	16.6	253	30	14.4	11.1	270								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	MANGALORE												MINICOY															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.8	3.5	080	31	4.7	4.1	283	31	2.3	1.7	032	31	1.8	1.3	059	31	2.0	1.7	051	31	2.0	1.6	058				
0.15 a.g.	31	5.5	4.4	046	31	5.1	4.6	290	31	4.4	4.1	335	31	3.3	2.5	057	31	4.2	3.7	044	31	3.8	3.1	052				
0.3 a.m.s.l.	31	5.2	3.4	030	31	5.2	4.6	290	31	4.6	4.4	330	31	3.4	2.7	057	31	4.3	3.8	044	31	3.9	3.2	053				
0.6 "	31	4.8	2.7	015	31	3.3	2.6	298	31	4.4	4.0	328	31	4.0	3.4	064	31	4.6	4.1	049	31	4.3	3.5	064				
0.9 "	31	4.5	2.1	023	31	2.7	1.4	066	31	3.5	2.2	339	31	4.9	4.5	077	31	4.6	4.3	066	31	4.6	4.0	075				
1.5 "	31	4.2	2.4	122	31	5.9	5.3	085	31	3.8	2.6	096	31	5.5	4.9	079	30	4.4	3.7	075	31	4.9	4.0	083				
2.1 "	30	4.7	3.3	115	31	6.9	6.3	090	30	7.7	6.7	101	30	4.2	3.2	098	28	4.2	2.5	091	29	4.4	3.2	089				
3.0 "	29	4.7	3.4	131	30	4.2	2.2	127	29	5.2	3.5	114	21	4.8	3.7	125	21	3.9	1.9	111	27	4.0	2.9	096				
3.6 "	7	4.2	3.0	145	30	4.1	1.4	170	24	4.5	2.0	156	19	4.0	2.5	121	19	4.1	2.8	115	22	4.0	2.9	101				
4.5 "					30	5.0	2.2	219	19	4.9	2.0	232	14	5.1	1.9	074	17	4.6	2.6	086	16	3.3	1.6	114				
5.4 "					30	6.4	3.4	262	5	6.5	3.3	315	7	4.4	2.3	312	15	5.0	1.5	064	7	5.6	2.4	108				
6.0 "					30	7.8	5.0	257	2	7.7	1.9	223	2	4.1	3.9	167	14	5.0	1.5	045	3	2.9	2.0	085				
7.2 "					29	9.9	7.1	271	1	6.7	6.7	155	1	10.8	10.8	130	7	6.6	2.0	047	1	8.2	8.2	135				
9.0 "					20	15.3	13.4	264																				

Station	MOHANBARI												NAGPUR															
	0530				1730				2330				0530*				1130				1730*							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.1	0.1	045	31	0.5	0.5	048	31	0.3	0.1	076	31	0.8	0.6	013	31	2.0	0.1	138	31	1.7	0.6	165				
0.15 a.g.	24	3.9	3.4	055	30	3.3	2.5	050	29	3.5	2.5	039	31	6.2	2.7	097	31	2.6	0.7	210	31	4.9	1.2	174				
0.3 a.m.s.l.	24	4.0	3.7	054	30	3.3	2.6	057	29	3.5	2.5	043																
0.6 "	24	3.9	3.4	049	30	3.0	2.5	060	29	3.0	2.4	051	31	5.5	2.4	121	31	2.6	0.8	164	31	4.0	1.4	170				
0.9 "	24	3.7	2.7	053	30	2.4	1.8	065	29	2.5	2.1	071	31	5.2	2.4	165	30	4.1	2.0	200	31	3.1	1.4	174				
1.5 "	23	2.9	0.5	163	29	2.8	1.1	194	26	2.2	0.9	136	31	5.3	3.4	220	30	5.4	3.3	225	31	3.8	2.1	214				
2.1 "	21	2.4	0.6	220	28	4.8	4.2	204	25	3.2	2.0	216	31	6.0	4.5	254	29	6.0	4.4	253	31	5.7	3.8	257				
3.0 "	13	3.1	1.6	270	24	5.4	4.6	219	19	5.7	3.8	176	31	9.4	8.5	268	29	8.2	6.7	265	31	8.8	7.8	265				
3.6 "	6	3.6	2.8	288	14	6.2	5.2	259	5	7.4	4.6	174	31	11.1	10.3	265	26	11.1	9.9	268	31	11.4	11.1	262				
4.5 "	1	11.8	11.8	270	1	26.2	26.2	255					31	14.4	13.0	259	24	16.0	14.6	262	31	14.7	13.9	260				
5.4 "												31	17.0	15.7	262	22	17.6	16.0	261	31	17.0	16.1	264					
6.0 "												31	19.9	18.1	263	21	19.5	18.4	263	31	19.5	18.4	265					
7.2 "												30	24.4	23.0	261	15	24.9	23.5	266	31	24.6	22.8	262					
9.0 "												29	31.9	29.1	264	6	34.2	28.8	272	30	30.7	27.8	265					

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	NAGPUR				NANPARA								NEW DELHI															
	2330				0530				1730				0530*				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.7	1.1	284	31	1.4	0.4	010	31	1.3	0.1	286	31	1.3	0.6	312	31	3.2	1.5	293	31	2.2	0.8	342				
0.15 a.g.	31	6.3	3.7	115	29	5.2	1.7	328	29	4.0	2.5	272	31	3.9	2.1	332	28	4.0	1.1	326	30	5.6	2.3	332				
0.3 a.m.s.l.					29	5.3	1.9	329	29	4.0	2.7	277	31	3.7	2.3	330	28	3.8	1.3	329	30	3.7	1.2	348				
0.6 "	31	6.6	3.8	227	29	5.3	1.6	305	29	4.1	2.7	286	31	6.1	3.2	328	28	5.7	1.3	314	30	5.0	2.0	324				
0.9 "	31	5.7	2.9	147	25	5.3	2.1	294	28	4.1	3.1	298	31	6.0	3.2	320	28	5.7	1.1	288	30	4.7	1.9	306				
1.5 "	31	4.7	2.5	228	24	6.6	4.3	297	26	5.4	5.0	296	31	5.7	3.3	297	28	5.4	2.3	274	30	5.2	2.4	290				
2.1 "	29	6.3	5.0	262	19	6.7	5.1	290	23	6.2	5.5	301	31	5.6	3.5	225	27	6.0	3.5	263	30	5.3	2.9	278				
3.0 "	20	9.3	8.4	261	13	7.4	6.1	280	14	7.2	6.2	294	31	7.4	5.1	266	27	7.9	5.4	262	30	7.1	4.9	268				
3.6 "	14	11.0	10.5	261	6	8.1	7.8	280	10	8.7	7.6	287	31	9.5	7.3	267	27	11.1	8.9	268	30	8.9	7.3	270				
4.5 "	7	12.7	12.3	262	1	9.8	9.8	275	3	10.5	9.8	291	31	13.6	11.4	269	27	14.7	12.0	266	29	12.8	10.0	264				
5.4 "													31	17.6	15.7	267	27	18.0	15.2	268	29	17.5	15.0	263				
6.0 "													31	20.1	18.3	266	27	20.0	17.5	267	29	21.6	19.4	265				
7.2 "													30	24.6	22.4	268	20	25.1	22.7	264	29	26.6	24.3	263				
9.0 "													27	32.8	29.9	268	7	28.3	25.5	264	28	35.0	32.2	266				

Station	NEW DELHI				POONA								PORT BLAIR															
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.9	0.5	314	31	0.2	0.2	232	31	1.3	0.8	283	31	0.3	0.3	233	31	1.9	1.9	054	31	2.8	2.6	056				
0.15 a.g.	30	6.2	2.2	341	31	2.4	0.3	082	31	3.3	2.2	285	31	2.8	2.5	285	31	5.6	5.3	055	31	4.0	3.8	056				
0.3 a.m.s.l.	30	5.5	2.3	332													31	5.8	5.5	055	31	4.3	4.1	057				
0.6 "	30	6.0	1.7	325	31	1.3	0.8	215	31	2.3	1.4	301	31	1.9	1.4	248	31	6.2	5.7	069	31	4.6	4.4	066				
0.9 "	29	5.2	2.8	299	31	3.7	1.4	065	31	3.6	2.3	278	31	3.2	2.4	300	31	6.3	5.6	087	30	5.0	4.6	082				
1.5 "	29	5.8	3.8	287	31	4.3	2.6	164	31	2.9	2.2	250	31	3.6	1.4	178	31	6.1	5.3	105	28	4.6	4.2	099				
2.1 "	29	5.6	3.9	272	31	4.9	4.2	190	30	3.0	2.1	211	31	4.7	3.3	160	31	5.3	4.3	095	27	4.2	3.5	099				
3.0 "	26	8.0	6.7	278	31	7.4	6.1	242	30	6.3	4.7	235	30	5.8	4.7	223	31	4.8	3.2	095	25	3.7	2.8	098				
3.6 "	16	9.9	9.0	265	30	9.4	8.4	255	30	8.9	6.6	252	28	7.8	6.9	251	31	4.7	2.6	097	23	3.5	1.2	097				
4.5 "	1	18.0	18.0	265	11	11.2	10.1	255	30	11.6	10.1	257	13	12.1	11.6	261	31	5.0	1.5	126	22	3.9	1.0	125				
5.4 "					1	13.4	23.4	280	25	14.3	13.2	260	6	12.3	11.6	259	31	6.6	0.7	162	22	3.7	0.9	159				
6.0 "					1	14.9	14.9	275	23	16.9	14.9	262	4	16.1	15.3	269	31	7.2	1.7	220	21	4.5	0.9	215				
7.2 "									20	22.0	19.6	262																
9.0 "									10	29.1	25.5	262					31	7.8	3.5	240	18	4.9	2.2	251				
																	23	12.2	6.3	252	8	7.8	5.2	217				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	PORT BLAIR								RAIPUR								RAXAUL							
	1730*				2330				0530				1730				2330				0530			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.0	2.9	055	31	2.8	2.4	048	31	1.3	0.0	185	31	1.0	0.1	054	31	2.0	0.6	153	31	0.4	0.1	090
0.15 a. g. . .	31	6.1	5.9	055	31	3.7	3.3	049	30	4.6	0.9	080	31	2.6	0.3	359	29	4.3	1.5	109	25	4.0	1.8	290
0.3 a. m. s. l. . .	31	6.1	5.9	055	31	3.7	3.3	050													25	4.1	2.3	293
0.6 „ . . .	31	6.1	5.3	062	31	3.7	3.4	064	30	4.8	0.7	108	31	2.9	0.1	327	29	3.9	1.4	124	25	4.0	2.3	281
0.9 „ . . .	31	5.8	5.1	078	30	3.6	3.2	080	30	4.4	0.6	186	31	2.7	0.6	233	29	3.6	0.7	162	25	3.8	1.5	277
1.5 „ . . .	31	5.2	4.2	101	22	3.1	2.6	092	30	4.6	1.4	266	31	4.1	1.8	264	29	4.5	1.3	240	24	4.6	2.7	288
2.1 „ . . .	31	4.5	3.3	104	20	2.8	2.2	089	30	5.3	3.4	278	29	5.3	3.2	284	29	5.7	3.3	280	21	7.2	6.7	286
3.0 „ . . .	30	4.6	2.6	098	17	2.9	2.5	087	29	7.6	6.6	276	29	7.9	6.6	277	29	7.9	7.1	271	18	10.2	9.8	287
3.6 „ . . .	30	4.7	2.2	093	11	3.2	2.9	090	23	8.2	7.4	275	28	10.9	9.8	269	21	11.5	10.8	272	10	9.6	9.0	282
4.5 „ . . .	30	5.8	1.5	110	8	3.2	2.3	133	1	7.7	7.7	260	19	15.2	13.9	267	6	14.7	11.3	275	2	7.2	7.2	309
5.4 „ . . .	31	6.2	1.0	168	4	2.2	0.9	145					3	21.0	20.9	273	1	9.3	9.3	315				
6.0 „ . . .	31	7.1	1.5	192	3	2.1	0.7	173					2	20.8	20.8	268	1	7.7	7.7	315				
7.2 „ . . .	31	7.4	2.0	233																				
9.0 „ . . .	24	9.5	3.5	277																				

Station	RAXAUL				SANTA CRUZ								TEZPUR											
	1730				0530*				1130				1730*				2330				0530			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.7	0.6	270	31	1.4	1.0	058	31	2.1	1.0	347	31	4.8	4.3	321	31	1.5	1.2	005	31	0.3	0.2	043
0.15 a. g. . .	30	4.7	3.7	263	31	6.1	4.6	025	31	2.3	1.2	003	31	7.2	6.5	325	31	4.9	4.4	351	26	3.8	2.7	085
0.3 a. m. s. l. . .	30	4.8	3.7	264	31	4.7	3.7	031	31	2.5	1.3	034	31	5.8	5.0	315	31	5.5	5.0	347	26	3.9	2.9	092
0.6 „ . . .	30	4.7	3.5	269	31	4.0	2.0	030	31	2.9	0.8	094	31	3.5	1.7	309	31	4.4	3.3	347	26	3.4	2.2	093
0.9 „ . . .	30	4.7	2.6	275	31	3.8	1.2	353	31	3.1	0.6	152	31	3.4	1.0	255	31	2.9	0.9	329	26	3.1	1.3	100
1.5 „ . . .	30	5.2	3.2	295	31	4.4	2.6	229	31	4.4	3.0	212	31	4.6	3.1	188	31	3.9	2.6	201	21	2.9	0.8	095
2.1 „ . . .	30	7.8	6.3	290	31	6.4	5.3	203	31	6.2	5.2	215	31	5.8	3.6	216	30	5.3	3.9	186	15	3.0	0.5	177
3.0 „ . . .	28	9.6	8.8	279	31	8.2	6.6	231	30	7.7	6.6	237	31	6.9	5.9	244	30	6.4	4.9	221	5	11.5	10.5	264
3.6 „ . . .	14	9.5	7.8	277	31	9.9	18.5	250	30	9.4	8.3	249	31	8.9	7.7	250	29	8.1	6.7	241				
4.5 „ . . .	6	8.9	5.5	279	31	14.0	12.8	260	28	12.5	11.2	255	31	12.3	11.8	257	16	11.2	10.6	248				
5.4 „ . . .	1	7.7	7.7	354	31	16.9	15.9	260	27	15.1	13.7	257	30	14.9	14.1	258	6	12.4	12.0	255				
6.0 „ . . .	1	5.7	5.7	340	31	19.0	17.4	261	27	17.0	15.6	260	29	18.1	17.5	260	4	11.6	11.4	263				
7.2 „ . . .	1	3.1	3.1	020	31	23.9	21.7	264	27	21.8	19.7	259	29	24.5	21.9	262								
9.0 „ . . .					29	35.8	33.0	265	17	30.0	26.8	260	20	35.1	33.4	263								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa 11—Magha 11, 1880 Saka)

Station	TEZPUR								TIRUCHIRAPALLI								TRIVANDRUM							
	1730				2330				0530				1730				2330				0530*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.5	0.1	023	31	0.8	0.5	053	31	2.3	2.2	025	31	4.2	4.0	081	31	3.2	3.0	066	31	1.5	1.0	023
0.15 a. g.	30	3.6	2.4	063	30	4.9	3.9	081	30	7.1	6.8	037	31	5.8	5.7	078	31	8.0	7.7	071	31	2.4	1.3	357
0.3 a. m. s. l.	30	3.4	2.1	066	30	5.3	4.0	084	30	7.4	7.1	044	31	6.1	6.0	077	31	8.9	8.5	070	31	2.5	1.1	358
0.6 "	30	2.8	1.4	081	30	4.3	2.3	093	30	7.7	7.3	057	31	6.6	6.4	069	31	9.2	8.7	071	31	2.1	0.6	060
0.9 "	30	2.1	1.7	130	30	3.0	0.5	099	29	7.5	6.9	060	31	6.8	6.4	064	31	7.7	7.2	059	31	2.7	1.8	060
1.5 "	28	3.6	2.1	232	29	2.5	1.3	257	28	5.7	3.8	064	31	6.0	5.5	053	31	5.5	4.4	050	31	3.2	2.3	080
2.1 "	25	5.9	4.1	235	25	4.8	2.3	239	27	5.3	4.5	086	30	5.3	4.3	068	30	5.4	4.2	086	31	4.0	2.4	112
3.0 "	16	10.5	9.0	273	17	7.3	6.1	270	24	4.9	4.0	111	29	4.8	3.1	097	29	4.9	3.4	108	31	3.8	2.9	112
3.6 "	5	15.3	15.2	270	3	9.3	8.7	266	22	4.3	2.1	121	28	4.5	2.1	108	25	4.1	2.4	125	31	5.1	3.1	106
4.5 "					3	11.5	11.4	268	21	4.9	1.7	122	26	4.4	0.9	126	19	4.4	2.5	138	31	5.8	2.6	113
5.4 "									15	6.1	2.2	099	24	5.3	1.3	180	8	5.5	2.4	165	31	5.7	2.3	100
6.0 "									12	5.9	2.6	102	23	6.1	1.2	266	6	7.1	3.2	160	31	6.5	2.0	094
7.2 "									1	3.6	3.6	310												
9.0 "													21	8.8	3.8	265					31	6.0	1.5	348
													10	11.4	5.2	280					29	7.8	2.9	260

Station	TRIVANDRUM								UDAIPUR															
	1130				1730*				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.5	0.9	352	31	2.2	1.6	242	31	1.2	0.8	008	31	0.2	0.2	346	31	1.0	0.2	257	31	0.3	0.2	301
0.15 a. g.	31	1.9	0.4	342	31	3.0	2.5	258	31	2.4	1.4	288	31	2.8	1.9	007	31	3.3	0.8	163	31	3.1	1.4	006
0.3 a. m. s. l.	31	1.7	0.1	255	31	3.0	2.3	254	31	2.4	1.4	286												
0.6 "	31	1.7	0.7	043	31	2.9	0.6	260	31	2.5	1.0	328												
0.9 "	29	2.2	1.4	054	31	3.8	2.9	038	31	3.3	2.7	042	31	3.3	1.3	038	31	3.6	0.6	149	31	4.2	1.1	023
1.5 "	23	3.6	2.8	070	31	5.0	4.5	050	30	4.6	3.8	060	31	6.2	3.0	237	31	4.3	2.3	250	31	4.9	1.9	202
2.1 "	20	4.6	3.9	094	31	4.8	3.7	070	26	4.2	2.5	085	31	8.6	5.8	248	31	6.6	4.9	254	31	7.1	5.3	237
3.0 "	17	4.1	3.4	111	31	3.9	3.1	100	24	3.1	1.7	101	29	10.6	7.7	265	31	11.4	9.5	250	31	11.4	9.2	250
3.6 "	16	4.6	4.0	092	31	4.1	3.1	100	20	3.4	1.6	108	23	12.1	9.8	271	28	13.4	11.7	260	28	12.7	10.5	262
4.5 "	15	5.1	3.3	093	31	4.8	3.0	105	11	3.3	1.4	137	12	16.1	11.8	278	27	16.6	14.9	266	11	15.9	14.7	279
5.4 "	15	5.4	1.0	036	31	4.4	1.7	100	5	2.9	2.0	182	1	17.5	17.5	245	23	19.8	18.4	269	1	32.4	32.4	265
6.0 "	14	4.9	1.7	008	31	5.2	1.4	078	3	4.0	2.8	204	1	31.9	31.9	235	23	21.7	20.4	268				
7.2 "	11	6.2	2.0	306	31	6.6	1.4	332									15	27.9	26.8	271				
9.0 "	9	6.1	4.8	211	29	7.6	2.9	256									9	40.4	37.3	275				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Station	VENGURLA												VERAVAL															
	0530				1730				2330				0530*				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.4	0.4	007	31	2.5	2.3	279	31	1.2	1.2	346	31	4.8	4.3	016	31	5.0	3.4	008	31	5.9	4.3	299				
0.15 a. g.	31	5.4	4.1	021	31	4.5	4.2	277	31	6.0	5.9	356	31	7.7	6.2	015	31	3.8	2.7	009	31	6.6	4.2	297				
0.3 a. m. s. 1.	31	6.1	3.8	020	31	4.5	4.1	280	31	6.9	6.8	347	31	7.0	5.0	010	31	3.8	2.7	008	31	6.0	3.6	310				
0.6 "	31	5.8	2.8	024	31	3.1	2.6	284	31	5.6	5.3	335	31	5.3	2.9	343	31	3.9	2.2	008	31	4.9	3.0	343				
0.9 "	31	5.0	1.6	041	31	2.7	0.2	030	31	3.8	3.0	324	31	4.4	1.8	318	31	3.8	1.0	355	31	4.5	2.6	002				
1.5 "	31	4.4	2.1	148	31	4.5	2.3	099	31	4.3	2.6	126	31	4.7	2.3	265	31	5.4	2.0	234	31	5.1	1.9	326				
2.1 "	31	4.5	3.1	170	31	5.6	2.9	104	30	6.6	4.6	115	31	6.3	4.4	251	30	6.9	4.5	235	31	6.7	3.8	269				
3.0 "	30	5.3	4.2	226	31	4.7	2.3	212	30	5.0	1.1	207	31	9.3	7.4	258	29	8.9	6.7	253	31	9.0	7.6	260				
3.6 "	18	6.0	4.8	239	31	6.3	4.1	235	19	6.4	5.0	240	31	10.6	9.3	261	29	10.7	9.2	258	31	10.4	9.2	262				
4.5 "	12	7.4	6.3	248	31	8.9	7.1	256	4	6.2	6.2	247	31	14.8	13.6	264	29	14.3	13.0	262	31	13.6	12.5	266				
5.4 "	5	11.6	11.5	244	31	11.0	9.5	261	2	6.2	6.0	252	31	18.5	17.5	261	29	17.5	16.2	268	31	17.1	15.9	265				
6.0 "	4	12.6	12.0	245	31	13.2	11.4	259	2	9.8	9.2	220	31	21.1	19.8	261	29	20.4	18.8	265	31	20.5	19.1	265				
7.2 "					17	17.1	14.4	266					30	24.5	23.9	265	24	25.5	23.4	263	31	26.0	24.1	264				
9.0 "					9	24.4	22.7	251					30	38.5	37.2	265	12	32.6	29.4	269	30	37.9	35.3	263				

Station	VERAVAL				VISAKHAPATNAM											
	2330				0530				1730				2330			
Time in I.S.T.																
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.4	3.1	359	31	0.3	0.1	308	31	3.8	2.7	116	31	0.9	0.6	079
0.15 a. g.	31	7.4	5.6	001	31	1.7	0.7	012	31	4.5	3.7	121	31	2.2	1.0	100
0.3 a. m. s. 1.	31	7.5	5.3	007	31	2.2	0.6	089	31	4.7	3.7	118	31	2.8	1.4	120
0.6 "	31	6.3	3.9	011	31	2.8	1.1	108	31	3.8	2.2	104	31	3.1	1.6	125
0.9 "	31	5.0	2.1	030	31	3.2	1.3	111	31	3.4	1.0	079	31	3.2	0.9	092
1.5 "	30	4.2	2.5	233	31	3.7	0.7	075	30	4.7	1.8	358	29	3.9	1.7	029
2.1 "	29	6.5	3.9	255	28	4.2	1.6	324	30	5.1	2.7	338	27	4.4	1.6	297
3.0 "	29	8.2	6.1	265	26	5.3	4.1	287	29	5.9	4.5	283	26	6.1	5.3	279
3.6 "	21	9.6	8.2	258	20	6.6	4.9	281	29	7.6	6.5	272	13	8.0	7.5	275
4.5 "	8	14.2	12.8	259	15	8.0	5.2	276	28	9.4	8.2	265	8	10.3	8.8	270
5.4 "	1	11.8	11.8	315	2	4.9	4.6	244	25	10.8	9.2	265	4	10.1	10.1	264
6.0 "	1	11.3	11.3	305	2	6.9	6.9	253	19	13.7	11.1	265	1	11.8	11.8	265
7.2 "									10	18.6	17.5	263				
9.0 "									2	31.4	30.1	300				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

January 1959 (Pausa II—Magha II, 1880 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
	AHMEDABAD					BEGUMPET					MADRAS					NEW DELHI					1130 hrs.			
	1730 hrs.					1730 hrs.					0530 hrs.*					0530 hrs.*				10.5	8	41.1	38.6	252
10.5	1	62.2	62.2	280	10.5	1	31.9	31.9	325	10.5	27	16.0	12.7	260	10.5	25	39.4	36.1	273	12.0	3	39.0	35.3	252
	AMBALA					DEHRADUN					1130 hrs.					1730 hrs.*								
	1730 hrs.					1730 hrs.					1130 hrs.					1730 hrs.*								
10.5	5	40.0	35.8	286	10.5	2	42.0	38.4	291	18.0	5	9.4	1.5	307	18.0	1	19.0	19.0	080	10.5	17	40.3	37.5	260
12.0	3	42.7	41.5	300	10.5	2	42.0	38.4	291	18.0	5	9.4	1.5	307	18.0	1	19.0	19.0	080	12.0	12	37.1	35.7	271
14.1	1	54.5	54.5	295		DUM DUM					1130 hrs.					1730 hrs.*								
16.2	1	45.8	45.8	285		0530 hrs.*					1730 hrs.*					1730 hrs.*				14.1	5	29.8	29.8	255
	AMRITSAR					0530 hrs.*					1730 hrs.*					1730 hrs.*				16.2	1	12.9	12.9	240
	0530 hrs.*				10.5	22	43.5	39.4	263	12.0	1	16.5	16.5	200	10.5	22	40.9	38.8	268	18.0	1	5.7	5.7	290
10.5	18	39.4	35.4	268	12.0	16	43.5	41.9	263	10.5	28	16.9	13.1	260	14.1	5	40.6	39.6	266		TIRUCHIRAPALLI			
12.0	12	49.5	44.4	264	14.1	4	50.7	50.2	279	12.0	25	16.2	13.5	270		1730 hrs.								
14.1	3	50.6	44.6	255	16.2	1	39.6	39.6	260	14.1	20	11.6	9.2	271		POONA								
	1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*				10.5	4	9.9	8.7	207
10.5	18	34.6	31.6	267	10.5	24	39.1	36.7	265	18.0	6	5.9	2.9	245	10.5	5	37.0	33.5	264	12.0	4	8.1	5.3	218
12.0	13	41.9	38.5	265	12.0	19	33.4	31.2	266	21.0	20	5.9	2.9	244	12.0	3	31.8	31.7	255	14.1	1	2.1	2.1	210
14.1	2	27.5	27.1	270	14.1	8	39.4	37.2	270		MANGALORE				14.1	1	27.8	27.8	245	16.2	1	4.1	4.1	195
	ANANTAPUR					1730 hrs.*					1730 hrs.					1730 hrs.					TRIVANDRUM			
	0530 hrs.				16.2	1	31.4	31.4	250	10.5	11	16.1	12.1	240		PORT BLAIR					0530 hrs.*			
10.5	2	11.8	9.1	287		GADAG				12.0	5	13.2	12.6	240		0530 hrs.*				10.5	26	10.3	3.1	196
12.0	2	9.0	7.9	271		1730 hrs.				14.1	1	10.3	10.3	220		0530 hrs.*				12.0	26	9.4	4.1	236
14.1	2	6.9	6.2	297	10.5	12	26.5	23.1	257		MINICOY				10.5	15	12.9	8.1	260	14.1	18	3.7	2.1	025
	1730 hrs.				12.0	7	24.1	21.4	248		1730 hrs.				12.0	10	16.3	8.9	234	16.2	13	9.5	3.0	095
10.5	9	22.2	20.5	287	14.1	2	19.0	18.9	243		1730 hrs.				14.1	5	14.1	10.5	166	18.0	2	6.7	6.7	165
12.0	3	21.3	20.8	211		GANNAVARAM				16.2	1	8.2	8.2	180		1130 hrs.				21.0	1	7.2	7.2	070
14.1	2	20.6	19.9	279		1730 hrs.				10.5	1	8.2	8.2	180		1130 hrs.					1130 hrs.			
16.2	2	17.0	16.7	276	10.5	1	24.2	24.2	250	12.0	1	8.2	8.2	290	10.5	2	4.1	2.3	201					
18.0	1	20.6	20.6	280		GAUHATI				14.1	1	4.1	4.1	240		1730 hrs.*								
	BAMRAULI					0530 hrs.*				16.2	1	4.1	4.1	320		1730 hrs.*				10.5	8	9.5	7.2	189
	0530 hrs.*				10.5	3	64.1	60.5	288		NAGPUR				10.5	18	11.9	6.8	265	12.0	7	5.3	1.9	264
10.5	16	49.7	46.9	270	12.0	3	47.8	47.7	273		0530 hrs.*				12.0	10	12.3	6.7	232	14.1	4	5.7	2.3	204
12.0	6	44.8	40.9	263	14.1	1	17.0	17.0	270	10.5	24	36.8	34.2	263	14.1	5	17.8	11.5	214	16.2	1	4.6	4.6	235
14.1	2	35.0	34.7	295		1730 hrs.*				12.0	21	33.7	29.5	264	16.2	3	10.1	5.5	131		1730 hrs.*			
	1730 hrs.*				10.5	2	46.1	45.6	275	14.1	14	30.4	28.9	266	18.0	1	22.1	22.1	160					
10.5	22	52.5	45.9	264		JODHPUR				16.2	8	28.4	26.1	265	21.0	1	48.9	48.9	150	10.5	27	10.0	5.3	192
12.0	7	42.1	40.5	266		0530 hrs.*				18.0	3	7.7	6.3	317	24.0	1	26.2	26.2	160	12.0	25	8.6	3.2	214
14.1	1	31.9	31.9	280		1730 hrs.*				21.0	2	16.7	16.7	250	27.0	1	16.5	16.5	130	14.1	14	7.6	2.2	108
	BANGALORE					0530 hrs.*					1730 hrs.*					1730 hrs.*					SANTA CRUZ			
	1730 hrs.				10.5	18	50.7	44.3	265	10.5	20	36.0	34.4	264		0530 hrs.*				18.0	3	8.9	8.2	120
10.5	14	15.0	13.3	246	12.0	3	54.1	48.9	254	12.0	15	36.1	33.1	275		0530 hrs.*					UDAIPUR			
12.0	13	11.8	10.6	256		1730 hrs.*				14.1	5	37.6	36.5	274	10.5	23	40.5	37.9	263					
14.1	11	9.8	6.4	267		0530 hrs.*				16.2	5	31.0	30.1	264	21.0	14	35.7	33.7	279		1730 hrs.			
16.2	8	7.7	1.4	231	10.5	14	54.0	50.2	261	18.0	4	26.4	19.0	322	14.1	5	34.4	32.9	289					
18.0	6	6.5	1.3	129	12.0	5	60.7	55.5	267	21.1	1	9.3	9.3	230	16.2	1	17.5	17.5	291	10.5	1	48.9	48.9	305

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

January 1959 (Magha 11—Pausa 11, 1880 Saka)

Ht in km	n	V	v	D
VENGURLA				
1730 hrs.				
10.5	3	26.0	25.7	253
12.0	1	24.7	24.7	230
VERAVAL				
0530 hrs.*				
10.5	20	45.1	40.3	264
12.0	11	41.5	40.2	263
14.1	2	51.7	51.4	247
16.2	1	26.7	26.7	275
1130 hrs.*				
10.5	5	46.1	43.1	279
12.0	2	40.9	40.9	283
14.1	1	41.7	41.7	285
1730 hrs.*				
10.5	22	38.5	36.3	261
12.0	14	39.7	37.9	270
14.1	9	26.7	25.7	275
16.2	6	20.7	12.2	310
18.0	5	10.0	8.6	330

RADIOSONDE DATA

January, 1959 (Pausa 11—Magha 11, 1880 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of Station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad . . .	Clock type	1st October 1944	00 and 12	
2	Amritsar . . .	Clock type	21st June 1957	00 and 12	
3	Bombay . . .	Clock type	7th September 1954	00 and 12	
4	Calcutta . . .	Clock type	13th December 1946	00 and 12	Fan type used from 13th December, 1946 to 30th November, 1947.
5	Gauhati . . .	Clock type	22nd July 1955	00 and 12	
6	Jodhpur . . .	Clock type	17th April 1946	00 and 12	
7	Madras . . .	Fan type	29th June 1946	00 and 12	
8	Nagpur . . .	Fan type	1st October 1946	00 and 12	
9	New Delhi . . .	Clock type	3rd December 1943	00 and 12	
10	Port Blair . . .	Fan type	4th December 1949	00 and 12	
11	Trivandrum . . .	Fan type	1st July 1947	00 and 12	
12	Veraval . . .	Fan type	3rd October 1944	00 and 12	
13	Visakhapatnam . . .	Fan type	8th December 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 00 Hours G. M. T.

January 1959 (Pausa II— Magha II, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1009 mb.)					
	No. of Obs.	Ht. gpm.	Temperature°A			
			Mean	Max.	Min.	Dew point
Surface	31	048	296.0	298	292	290.9
1000	31	129	..	..	..	..
900	31	1041	290.5	293	287	282.9
850	31	1529	288.3	291	285	276.4
800	31	2042	286.6	289	283	271.9
700	31	3158	281.8	287	277	262.8
600	31	4419	274.8	279	268	256.0
500	31	5865	265.3	271	259	..
400	31	7568	254.7	260	249	..
300	29	9654	239.9	245	232	..
250	28	10911	230.0	239	222	..
200	27	12383	219.6	229	210	..
175	21	13232	213.5	223	203	..
150	20	14184	207.1	217	197	..
125	17	15259	201.4	211	193	..
100	11	16572	197.1	209	186	..
80	8	17935	198.1	211	193	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 12 Hours G.M.T.

January 1959 (Pausa II—Magha II, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. pr. (1008 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	018	299.5	301	298	292.7
1000	31	120	..	..	..	..
900	31	1038	291.7	294	289	283.1
850	31	1527	289.2	292	287	278.3
800	31	2041	286.9	290	284	274.9
700	31	3157	281.4	286	276	267.6
600	31	4416	274.1	279	268	257.3
500	31	5861	265.5	272	262	..
400	30	7568	254.7	264	248	..
300	28	9662	241.0	248	236	..
250	25	10936	232.2	240	227	..
200	20	12407	221.6	228	213	..
175	13	13271	215.1	219	206	..
150	11	14241	208.5	213	202	..
125	7	15316	202.0	208	199	..
100						
80						

Note:—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

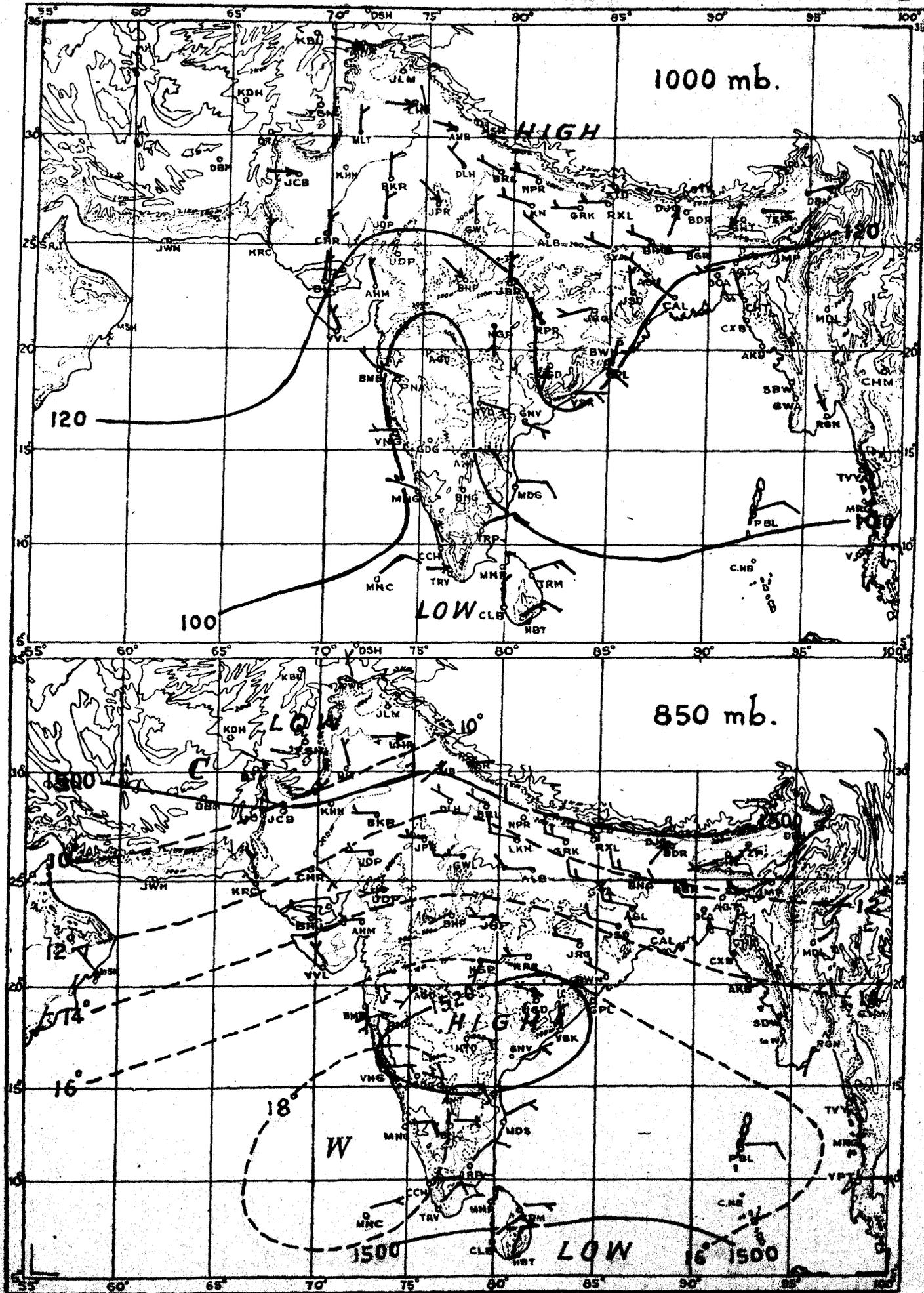
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I.Met.D.

JANUARY 1959

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots

----- Isotherms in degrees centigrade

----- Contours in geopotential metres.

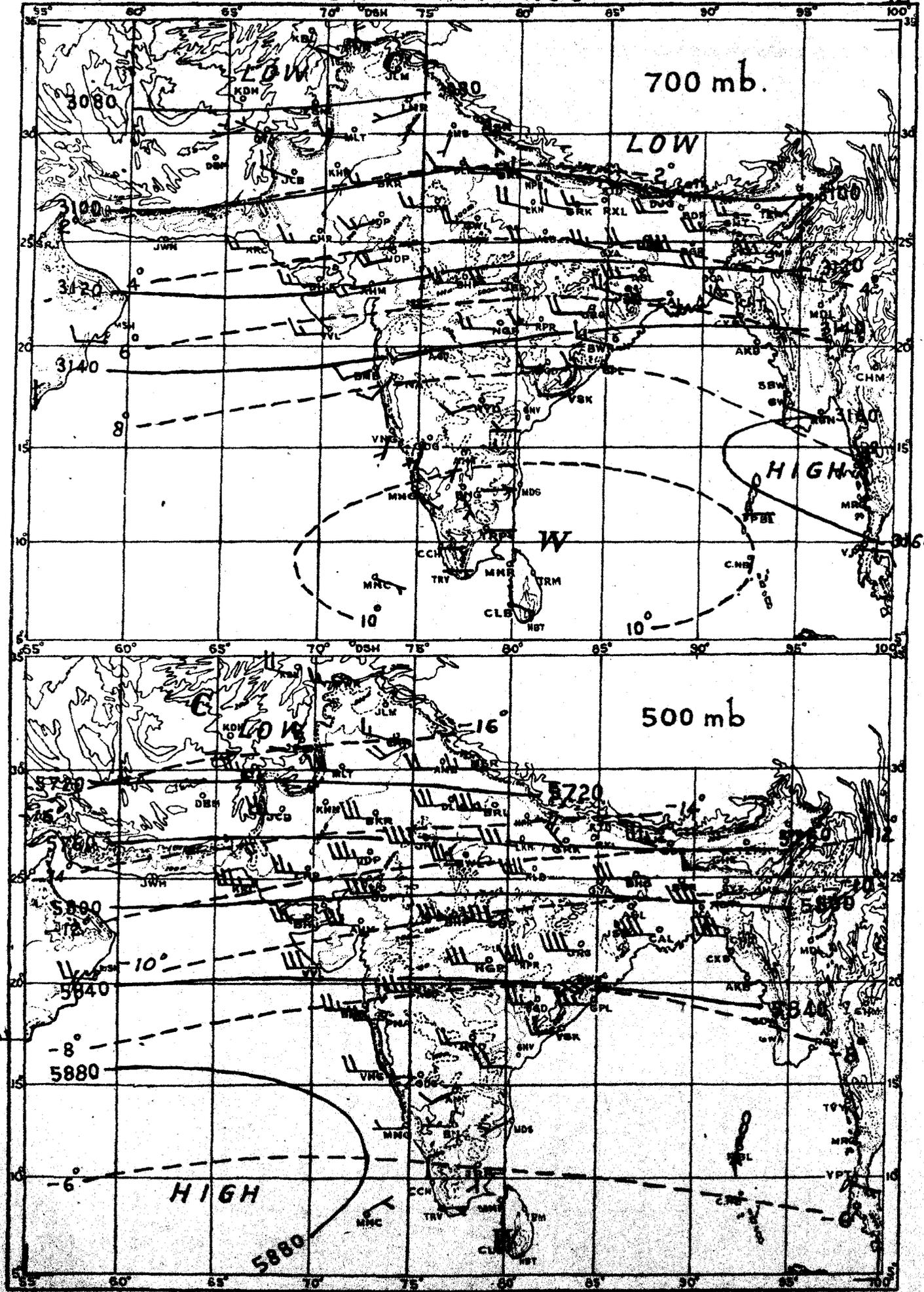
DPG/NET (1) 1:61

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I. Met. D.

JANUARY 1959

Plate II



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.
Isotherms in degree centigrade — Contours in geopotential metres.



Registered No. B-3097

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

February

2 JUN 14
Copy 1965

Published by authority of the Government of India

Chief features—

Sub-normal activity of the western disturbances in the northern parts and of easterly waves in the southern parts of the country.

Five western disturbances affected the weather over the country during the month of February. The first two were fairly active but the last three were either feeble or moved away rapidly across the country. Tabular statement showing the movement and activity of the western disturbances is given below.

No.	Period	Course	Region affected	Nature of precipitation	Period	Remarks
1.	1st—5th	North Baluchistan Punjab (P)-Punjab(I).	Jammu & Kashmir, Himachal Pradesh and Punjab-Kumaon hills, Plains of Punjab (I)	Fairly widespread rain/snow.	4th & 5th	Dharamsala reported 7 cms of rain on 5th.
			Plains of west U.P.	Fairly widespread thundershowers.	4th	
				Local thundershowers	4th	
1a.	3rd—6th	North Rajasthan-north Madhya Pradesh-Bihar-West Bengal-Assam.	Orissa Bihar, West Bengal and Assam.	Scattered thundershowers Do.	5th 6th	Induced by Western disturbance No. 1.
2.	8th—13th	Baluchistan-Punjab (P) Jammu & Kashmir.	Jammu & Kashmir Himachal Pradesh & Punjab-Kumaon hills, Plains of Punjab (I) and west U.P.	Fairly widespread rain/snow. Fairly widespread or local rain/snow. Local thundershowers	— 10th—13th 12th	
2a.	11th—15th	North Madhya Pradesh-west Bengal-Assam.	Bihar State . . . Orissa State. Gangetic West Bengal Assam.	Scattered thundershowers. Scattered thundershowers Local thundershowers Local or scattered thundershowers	12th—13th 13th—15th 13th 12th—15th	Induced by Western disturbance No. 2.
3.	14th—16th	Punjab (P)-Jammu & Kashmir.	Jammu & Kashmir Punjab (I).	Local rain/snow. Scattered thundershowers	15th 16th	
3a.	15th—17th	Rajasthan-north Madhya Pradesh-Bihar-West Bengal-Assam.	North Madhya Pradesh	Scattered thundershowers.	16th	Induced by Western disturbance No. 3.
4.	16th—19th	Persian Gulf-South-east Iran-Baluchistan-Upper Sind-North Rajasthan-Punjab (P)-Jammu and Kashmir.	Punjab-Kumaon hills Himachal Pradesh & Jammu and Kashmir.	Faily widespread rain/snow.	19th	Dharamsala recorded 9 cms of rain on 19th.
5.	21st—24th	Baluchistan-Punjab (P)-Jammu & Kashmir.	Punjab-Kumaon hills Himachal Pradesh Jammu & Kashmir.	Local or scattered rain/snow.	23rd & 24th	

An easterly wave moved across the south Peninsula in the first week of February. In association with it, local showers occurred in the Madras State between 1st and 4th and in Kerala on 5th, Alleppey reporting 7 cms of rain on 5th. The passage of another easterly wave across the Ceylon-Comorin area caused local showers over Ceylon between 19th and 21st but only cloudiness in the south Peninsula. A third easterly wave was responsible for isolated very light showers in Kerala on 28th February.

“Copyright © 1959 by the Manager of Publication, Govt. of India, Delhi-8.”

Night temperatures were below normal in north-west India, north-west Madhya Pradesh, north Gujarat and Saurashtra and Kutch on the 1st and also between 6th and 9th. For the rest of the month, the temperatures were generally normal or above normal over most of the country, being appreciably above normal in Telangana and Maharashtra on the 10th, in east Madhya Pradesh and east Uttar Pradesh on the 12th and 13th, in Gangetic West Bengal from 13th to 15th and in the central parts of the country on 24th.

Total rainfall during the month was in large excess in coastal Andhra Pradesh, the Madras State and south Interior Mysore, in moderate excess in Assam and Vidarbha and normal in Jammu and Kashmir and Kerala. It was in moderate defect in the Punjab(I) and in large defect over the rest of the country outside the Bay Islands, Gujarat, Saurashtra and Kutch, the Konkan, Maharashtra, coastal Mysore and the Arabian Sea Islands, where there was no rain.

The mean maximum temperature was above normal in the Bay Islands, Maharashtra, Telangana and north Interior Mysore and below normal in Sub-Himalayan West Bengal, Bihar Plains, Uttar Pradesh, the Punjab(I), and Jammu and Kashmir. It was normal over the rest of the country. The mean minimum temperature was above normal in Andhra Pradesh and Interior Mysore State and normal over the rest of the country.

The mean relative humidity in the morning was above normal in the Punjab(I), east Rajasthan, Saurashtra and Kutch and coastal Mysore and below normal in Gangetic West Bengal. It was normal over the rest of the country.

The mean cloud amount in the morning was above normal in Telangana, Kerala and the Arabian Sea Islands, below normal in the Bay Islands, West Bengal, Orissa, Bihar State, Uttar Pradesh, the Punjab(I), Rajasthan, Madhya Pradesh and the Bombay State and normal over the rest of the country.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,
The 18th August 1960.

C. RAMASWAMY,
for Director General of Observatories.

Errata to M.W.R. February 1959 (Magha 12 - Phalguna 9, 1880 Saka)

Page No.	Station	Hour	Column	For	Read
Table I - Sub-divisions					
59	10. Punjab (India) (Including Delhi)		8	0.5	-0.5
59	20. Maharashtra (Including Marathwada)		1	Maharashtra	Maharashtra (Including Marathwada)

Table II

61	Chandbali		3	-0.3	-3.9
61	Darbhanga		2	25.2	23.3
62	Roorkee		4	22.2	27.2
62	Adampur (Aerodrome)		11	43.0	73.0
63	Jaisalmer		15	Blank	0
63	Phalodi		18	10.2	10.6
63	Sagar		11	8.8	8.0
63	Idar		28	1	0
63	Dohad		19	+5.9	(-) Dash
64	Rajkot (Aerodrome)		19	+6.3	(-) Dash
64	Bhavnagar (Aerodrome)		17	5.4	15.4
64	Alibag		5	37	27
65	Visakhapatnam		2	30.4	30.3
65	Tirupattur			†	delete
65	Bijapur		7	+1.	+1.6
65	Belgaum		7	Blank	0
66	Cherrapunji		14	5	25
66	Mercara		2	24.2	28.2
68	Chautara		1	Chantara	Chautara
68	Foot note			Mean of 30 days	(a) Mean of 30 days

Table III

69	Car Nicobar	0830	4	1013.3	1013.1
69	Dibrugarh	1730	5	995.2	999.2
70	Tura	1730	11	42	49
70	Luding	1730	10	25.7	13.5
70	Cooch Behar (C.W.O)	1130	8	6.5	16.5
70	Malda	0830	1	(Name not clear)	Malda
71	Heading		28	Blank	Variable
71	Contai	0830	18	25	22
71	Asansol	0830	7	19.2	19.6
71	Bhubaneswar	2330	8	20.1	25.5
71	Puri	1730	7	25.8	25.9
72	Jharsuguda	1730	4	1000.9	1009.9
72	Dhanbad	0830	8	Blank	13.9
73	Bihar Plains	-	1	Bihar	Bihar Plains
74	Lucknow (Amausi Aerodrome)	0530	2	Blank	0530
74	Hardoi	0830	15	.2	5.2
76	Leh	0530	7	10.0	-10.0
76	Leh	0830	9	-15.	-15.7
76	Sri Ganganagar	2330	8	0.2	10.2
76	Pilani	1730	8	13.3	13.0
77	Udaipur	0530	19	2	0
77	Guna	1730	26	4	14
77	Neemuch	0830	12	-	-9
78	Sagar	0830	6	0.6	-0.6
79	Gujarat	-	1	Gujrat	Gujarat
79	Porbander (Aerodrome)	1130	23	5	0

Page No.	Station	hour	Column	For	Read
79	Foot note	-	-	† Observations for 22 days.	† Observations for 24 days.
80	Surendranagar	1730	5	1502.6	1002.5
80	Dahanu	0830	6	-	0
80	Bombay (Colaba)	1130	16	0	(-) dash
80	Devgad	0830	1	Devgad	Devgad
80	Vengurla	1730	25	1	12
80	Vengurla	2330	25	Blank	0
81	Buldhana	0830	21	1	0
81	Amravati	0830	10	11.7	11.2
81	Nagpur	0830	8	14.7	14.2
81	Brahmapuri	1730	5	(Not clear)	983.7
82	Kakinada	0830	14	-0.7	+0.7
82	Nizamabad	0830	13	0.2	0.9
82	Hyderabad (Begumpet Aerodrome)	0530	13	0.3	1.3
82	Hyderabad (Begumpet Aerodrome)	0830	6	-0.4	+0.4
83	Bhadrachallam	1730	24	1	4
83	Cuddapah	0830	14	-0.1	-0.3
83	Nagapattinam	1730	23	0	1
84	Vellore	0830	26	Blank	0
84	Bangalore	0830	9	20.0	22.0
85	Aijal	0830	11	51	61
87	Ramgarh	0830	2	† 0830	0830
87	Ramgarh	1730	9,11	11.5; 50	11.5 (d); 50 (d)
87	Foot note	-	-	† Observations for 28 days.	(d) mean of 27 days
88	Angbung	-	-	Angbung †	Angbung

Page No.	Station	Time in I.S.T.	ht. in Km.	entry under column	Existing entry	Correct entry
90	Santa Cruz	-	-	height of anemometer head amsl. in metres	14	27
96	Dum Dum	-	-	ht. in amsl.	0.5 amsl	0.3 amsl
99	Jharsuguda	0530	3.6	v	18.8	10.3
105	Madras	0530	14.1	ht. in Km.	14.0	14.1

RADIO SONDE DATA

109	Trivandrum	00	300 mb	ht. gpm	1012	1011
112	Madras	12	100 mb	ht. gpm	11684	16684
112	Veraval	12	80 mb	min.	93	193

TABLE I—DIVISIONAL AND SUB-DIVISIONAL MEANS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

1	2	3	4	5	Relative humidity %		Cloud		1	2	3	4	5	Relative humidity %		Cloud	
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
Division									Division—contd.								
1. Assam (Including Manipur, Tripura)	51.7 +13.1	134	23.7 -1.0	12.8 +0.4	78 -3	63	3.2 -0.2	2.9	8. Rajasthan	1.5 -6.4	19	26.4 +0.2	10.2 -0.4	57 +2	29	1.3 -0.8	1.5
2. West Bengal	7.6 -19.4	28	27.0 -0.6	14.2 -0.2	64 -7	49	0.8 -1.3	1.0	9. Madhya Pradesh	3.2 -12.0	21	28.3 +0.2	12.4 +0.2	56 0	29	0.7 -0.9	1.0
3. Orissa	6.3 -20.0	24	29.4 -0.2	18.7 +1.0	69 -3	56	1.2 -0.8	1.7	10. Bombay	2.4 -1.5	62	31.2 +0.6	16.2 +0.6	61 +5	38	0.5 -0.7	0.4
4. Bihar	3.5 -22.3	14	26.0 -0.3	12.4 +0.1	65 -3	49	0.8 -1.2	0.9	11. Andhra Pradesh	13.0 +1.4	112	33.1 +1.0	20.9 +1.5	69 -1	46	2.2 +0.2	1.6
5. Uttar Pradesh	7.6 -14.5	34	23.7 -1.3	10.3 +0.2	73 +4	47	1.5 -0.5	1.8	12. Madras State	35.6 +20.0	228	31.8 +0.4	21.8 +1.0	78 -1	52	3.0 +0.3	2.7
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	16.2 -14.3	53	22.2 -1.2	8.8 0	77 +7	45	2.0 -0.5	2.4	13. Mysore	5.0 +0.9	122	32.7 +0.9	19.3 +1.2	63 +1	34	1.5 0	1.8
7. Jammu and Kashmir.	81.7 -6.0	93	1.7 -1.9	-7.7 -1.0	72 +1	67	5.9 +0.1	4.5	14. Kerala	13.7 -1.1	93	31.9 +0.7	23.9 +0.6	75 -2	66	2.8 +0.8	3.0
Sub-Division									Sub-Division—contd.								
1. Bay Islands	0 -28.2	0	31.3 +1.6	21.8 +0.4	69 -2	75	2.3 -0.6	2.7	16. Madhya Pradesh (East).	5.2 -19.5	21	28.7 +0.6	13.2 +0.4	61 -1	33	0.7 -1.1	1.0
2. Assam (Including Manipur, Tripura)	51.7 +13.1	134	23.7 -1.0	12.8 +0.4	78 -3	63	3.2 -0.2	2.9	17. Gujarat	0 -2.6	0	31.5 +0.4	14.4 +0.4	61 +4	26	0.4 -0.8	0.3
3. Sub-Himalayan West Bengal.	0.1 -19.5	1	24.2 -1.4	12.1 -0.1	71 -5	43	0.8 -0.7	1.0	18. Saurashtra and Kutch.	0 -2.7	0	29.0 +0.1	14.8 +0.8	70 +13	47	1.0 -0.4	0.4
4. Gangetic West Bengal.	10.4 -19.3	35	27.8 -0.4	14.8 -0.2	63 -8	51	0.8 -1.4	1.0	19. Konkan	0 -0.9	0	28.8 +0.3	19.5 +0.5	73 +5	66	0.6 -0.4	0.2
5. Orissa	6.3 -20.0	24	29.4 -0.2	18.7 +1.0	69 -3	56	1.2 -0.8	1.7	20. Maharashtra	0 -3.1	0	33.8 +1.6	15.2 +0.9	48 +1	22	0.2 -0.8	0.5
6. Bihar Plateau	6.8 -32.7	17	27.4 +0.6	12.8 -0.1	61 -5	44	0.8 -1.3	1.2	21. Vidarbha	17.5 +3.6	126	32.6 +0.4	15.9 +0.5	50 +1	25	0.3 -1.2	0.7
7. Bihar Plains	1.7 -16.5	9	24.6 -1.2	11.9 +0.4	69 -1	54	0.8 -1.1	0.7	22. Coastal Andhra Pradesh.	23.8 +10.4	178	32.1 +0.7	21.9 +1.3	77 0	63	2.5 +0.1	2.1
8. Uttar Pradesh (East).	5.2 -13.4	28	24.3 -1.4	10.8 +0.2	72 +2	47	1.3 -0.6	1.4	23. Telangana	1.4 -12.2	10	33.1 +1.3	18.8 +1.4	62 -2	29	2.4 +0.5	1.1
9. Uttar Pradesh (West).	10.4 -15.7	40	23.0 -1.1	9.7 +0.2	74 +5	46	1.8 -0.5	2.3	24. Rayalaseema	2.8 -3.1	47	35.4 +1.0	21.7 +1.9	58 -3	31	1.1 -0.1	0.9
10. Punjab (India) (Including Delhi).	16.2 -14.3	53	22.2 -1.2	8.8 0	77 +7	45	2.0 0.5	2.4	25. Madras State	35.6 +20.0	228	31.8 +0.4	21.8 +1.0	78 -1	52	3.0 +0.3	2.7
11. Himachal Pradesh	90.9 ..	..	19.3 ..	6.1 ..	93 ..	50	6.3 ..	4.4	26. Coastal Mysore	0 -1.0	0	30.9 -0.4	22.3 +0.8	83 +9	67	2.1 -0.1	1.8
12. Jammu and Kashmir.	81.7 -6.0	93	1.7 -1.9	-7.7 -1.0	72 +1	67	5.9 +0.1	4.5	27. Interior Mysore (North).	0.7 -4.5	13	34.2 +1.6	19.2 +1.2	51 -2	30	1.1 +0.1	1.9
13. Rajasthan (West)	2.9 -7.8	27	25.8 -0.1	10.0 -0.1	59 -2	30	1.7 -0.7	1.7	28. Interior Mysore (South)	11.9 +7.3	259	31.9 +0.6	18.4 +1.4	68 +3	25	1.8 0	1.6
14. Rajasthan (East)	0.1 -5.0	2	26.8 +0.4	10.4 -0.6	56 +6	28	0.9 -0.8	1.3	29. Kerala	13.7 -1.1	93	31.9 +0.7	23.9 +0.6	75 -2	66	2.8 +0.8	3.0
15. Madhya Pradesh (West).	1.8 -6.7	21	28.1 -0.1	11.9 +0.1	53 +1	26	0.7 -0.8	0.9	30. Arabian Islands.	0 -1.8	0	33.8 +2.7	24.6 +0.1	75 +2	..	3.5 +0.8	..

NOTE.—The entries in the second line for each division and sub-division indicate departures from normal.

*Data of Himachal Pradesh not included.

Division and station	Air temperature in °C								Rainfall in millimetres				No. of rainy days (2.5 mm. or more)	Wind speed, km. per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours		Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust storm	Ground frost	Gale	Squall	Line squall
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20-a	20-b	21	22	23	24	25	26	27	28	29
Bay Islands																													
Maya Bandar . . .	26.9	..	28.3	16	22.0	..	20.3	26	0	0	..	0	..	0	..	8.0	4.1	..	0	0	0	0	0	0	0	0	0	0	
Long Island . . .	30.6	..	33.3	24	21.6	..	19.6	7	0	0	..	0	..	0	..	2.3	1.5	..	0	0	0	0	0	0	0	0	0	0	
Port Blair . . .	31.3	+1.6	32.4	19	21.8	+0.4	19.3	26	0	0	-28.2	0	..	0	-2.0	10.7	7.5	-3.9	0	0	0	0	0	11	0	0	0	0	
Car Nicobar . . .	30.9	..	31.9	13	24.4	..	19.7	22	0	0	..	0	..	..	..	10.9	7.2	..	0	0	0	0	0	0	0	0	0	0
Nancowry . . .	33.0	..	33.9	20,22	24.5	..	23.4	24	23.8	24.1	..	21.8	17	1	..	0.1	0	..	0	3	0	0	1	0	0	0	0	0	
Kondul . . .	29.1	..	30.6	20	26.2	..	22.8	24	0.3	0.3	..	0.3	19	0	..	13.9	11.9	..	0	1	0	0	1	0	0	0	0	0	
Assam (including Manipur, Tripura)																													
Pasighat . . .	20.9	..	26.6	11	12.3	..	7.5	2	30.3	137.9	..	28.0	16	10	..	7.9	10.5	..	0	13	0	1	13	0	0	0	0	0	
Digboi . . .	21.3	..	26.6	12,18	12.3	..	7.4	3	49.4	119.8	..	24.6	17	11	..	..	..	..	0	12	0	0	0	0	0	0	0	0
Dibrugarh . . .	21.9	-0.9	26.8	28	12.7	+0.1	8.9	2	14.5	71.6	+9.6	18.4	17	9	+2.8	3.5	2.5	+0.9	1	13	0	0	4	0	0	0	0	0	
Dibrugarh (Mohanbari Aerodrome)	21.6	..	26.4	28	12.0	..	7.2	2	10.9	76.7	..	15.2	17	9	..	6.9	4.6	..	2	13	0	0	9	1	0	0	0	0	
North Lakhimpur.	21.5	..	26.1	12,28	11.4	..	6.9	3	7.4	74.6	..	19.8	1	8	..	8.6	6.6	..	1	14	0	0	3	0	0	0	0	0	
Sibsagar . . .	21.6	-1.2	25.7	12	12.7	+0.7	8.6	3	9.3	137.8	+86.5	23.4	2	12	+6.8	5.2	4.3	+1.4	0	16	0	0	0	0	0	0	0	0	
Jorhat . . .	22.4	..	26.3	28	12.3	..	7.8	3	0.3	56.8	..	18.3	12	5	..	..	..	..	0	11	0	0	5	4	0	0	0	0
Golaghat . . .	22.5	..	26.7	12,28	12.3	..	8.3	2,3	10.0	48.0	..	22.0	13	4	..	..	..	..	0	4	0	0	0	0	0	0	0	0
Gohpur . . .	22.8	..	26.6	28	11.4	..	6.0	4	0	40.1	..	14.5	24	3	..	..	..	..	0	3	0	0	0	0	0	0	0	0
Tezpur . . .	24.1	-0.6	27.2	28	13.2	-0.1	9.5	2	0	20.4	-7.0	6.2	12	4	+1.3	7.0	6.5	+2.8	0	7	0	0	1	0	0	0	0	0	
Tezpur (P.B.O.) .	23.1	..	26.6	28	12.5	..	8.7	4	0	16.1	..	5.3	12	3	..	6.9	4.6	..	0	5	0	0	6	0	0	0	0	0	
Majbat . . .	..	..	..	..	..	..	..	..	0	16.2	..	5.0	22	3	..	8.3	4.9	..	0	7	0	0	3	0	0	0	0	0
Chaparmukh . . .	25.4	..	28.3	12	11.3	..	10.2	3	0.3	27.0	..	15.1	13	2	..	..	..	..	0	6	0	0	2	1	0	0	0	0
Tangla . . .	24.2	..	27.6	28	11.7	..	8.4	15	0	18.0	..	7.2	25	3	..	^(h) 3.8	^(h) 1.8	..	0	3	0	0	1	0	0	0	0	0	
Gauhati . . .	24.5	-1.1	26.7	16,28	13.7	+1.6	10.1	2,3	4.8	10.4	-19.3	5.6	13	2	-0.6	^(d) 5.1	^(d) 3.1	+0.7	0	4	0	0	0	0	0	0	0	0	
Gauhati (Bhorjor Aerodrome)	24.2	..	27.5	16	11.9	..	7.8	2	2.1	5.8	..	^(e) 1.9	28	0	..	4.4	5.2	..	0	7	0	0	3	0	0	0	0	0	
Rangiya . . .	25.0	..	27.4	12,24	12.4	..	8.8	2,4	0	14.2	..	6.0	17	3	..	^(e) 6.1	6.0	..	0	3	0	0	0	0	0	0	0	0	
Goalpara (R) . . .																													
Dhubri . . .	24.2	-0.8	27.1	25	14.2	+0.8	11.1	18	0	0	-18.8	0	..	0	-1.5	6.0	5.4	-0.2	0	0	0	0	0	0	0	0	0	0	
Dhubri (Rupai Aerodrome)	25.3	..	27.2	25,27	10.9	..	6.5	18	0	0	..	0	..	..	..	7.2	3.8	..	0	0	0	0	0	1	0	0	0	0
Tura . . .	24.0	..	26.7	27	12.6	..	10.2	12	0	0	..	0	..	..	..	7.1	7.2	..	0	0	0	0	0	0	0	0	0	0
Agartala . . .	26.9	..	30.3	25	12.7	..	8.3	3	1.9	24.5	..	12.0	25	3	..	9.8	5.3	..	0	6	0	0	8	8	0	0	0	0	
Kailashar (C.W.O.)	26.6	..	29.4	25,26	12.1	..	7.3	3	23.9	41.2	..	17.3	14	3	..	..	..	..	0	4	0	1	2	2	0	0	0	0
Silchar . . .	23.2	-3.8	27.3	27	13.2	0	9.2	2	20.8	120.2	+72.2	62.0	25	5	+1.4	3.5	2.1	-0.3	0	7	0	0	5	0	0	0	0	0	
Silchar (Kumbhigram Aerodrome)	25.7	..	27.9	11,27	12.7	..	8.5	2	11.4	113.9	..	48.0	25	5	..	7.9	8.8	..	2	5	0	1	5	0	0	0	0	0	
Imphal . . .	20.3	..	23.9	25	6.7	..	0.9	2	7.8	70.2	..	39.4	25	4	..	12.0	7.2	..	0	9	0	0	7	1	0	0	0	0	
Hailong . . .	21.2	..	23.7	11	9.1	..	5.4	1	3.2	124.7	..	64.3	25	5	..	12.1	9.6	..	0	6	0	0	4	0	0	0	0	0	
Lumding . . .	26.3	+1.2	29.3	12	10.1	-0.1	5.7	2	1.8	1.8	-31.2	1.8	16	0	-3.0	3.4	1.7	..	0	1	0	0	0	0	0	0	0	0	
Sub-Himalayan West Bengal																													
Cooch Behar (C.W.O.)	24.7	..	26.5	27	11.1	..	7.2	18	0	0	-20.6	0	..	0	-1.8	6.9	3.6	..	0	0	0	0	0	10	0	0	0	0	
Jalpaiguri . . .	22.6	-2.3	25.3	25	11.8	-0.3	7.9	18	0	0	-17.0	0	..	0	-1.4	9.4	6.0	+3.9	0	0	0	0	1	0	0	0	0	0	
Bardogra . . .	24.2	..	26.8	13	9.9	..	5.9	17	0	0.1	..	0.1	7	0	..	11.5	7.7	..	1	0	0	0	8	0	0	0	0	0	
Malda . . .	25.8	-0.5	30.6	25	12.5	+0.2	9.9	2	0	0.2	-20.9	0.2	16	0	-1.7	9.1	5.9	+1.2	1	0	0	0	0	0	0	0	0	0	
Gangetic West Bengal																													
Dum Dum . . .	28.5	..	33.7	25	14.1	..	9.2	3	1.9	11.9	..	9.4	13	1	..	7.7	4.7	..	0	3	0	0	2	6	0	0	0	0	
Calcutta . . .	28.7	0	33.6	25	16.2	+1.0	11.2	3	0	14.9	-14.8	14.0	13	1	-0.8	7.7	4.6	+0.4	0	2	0	0	2	8	0	0	0	2	
Barrackpore . . .	27.7	..	33.6	25	14.1	..	9.4	3	12.5	15.1	..	14.0	13	1	..	..	..	..	0	2	0	0	3	5	0	0	0	1
Saugor Island . . .	26.6	-0.4	30.0	26	18.8	+0.7	13.9	2	0	8.9	-20.3	4.5	6	2	+0.2	17.1	15.4	+4.6	1	3	0	0	2	1	0	0	0	0	
Sandheads . . .	27.6	..	31.2	23	22.4	..	19.4	19	0	12.7	-1.5	7.0	6	2	+0.9	..	..	..	0	3	0	0	0	0	0	0	0	0
Contai . . .	27.7	..	31.4	26,27	17.3	..	12.8	2	0	1.0	..	0.5	15,14	0	..	8.3	5.5	..	0	2	0	0	0	3	0	0	0	0	
Midnapore . . .	28.8	-0.9	35.6	25	16.1	-0.1	11.1	2	0.5	31.5	-2.8	22.4	13	2	0	5.4	3.8	+0.7	0	2	0	0	0	0	0	0	0	0	
Purulia . . .	27.6	..	32.9	25	14.6	..	10.2	2	6.5	8.5	..	6.5	13	1	..	6.1	4.0	..	0	2	0	0	0	0	0	0	0	0	
Bankura . . .	..	..	..	..	..	..	..	..	..	11.2	-17.8	11.2	13	1	-1.1	..	..	..	0	1	..	..	..	..	..	..	..	..
Burdwan . . .	25.9	-2.6	31.6	25	11.3	-3.4	8.9	4	0	0	-33.5	0	..	0	-2.0	2.6	2.1	-0.3	0	0	0	0	0	0	0	0	0	0	
Krishnagar . . .	29.6	+1.4	34.7	25	13.6	+0.4	9.6	2	0.3	9.0	-20.2	9.0	13	1	-0.8	4.7	3.5	+0.8	0	1	0	0	1	0	0	0	0	0	
Asansol . . .	27.4	-0.5	32.5	25	14.3	+0.2	10.3	2	5.3	7.5	-24.2	7.5	13	1	-1.5	11.0	6.5	+0.7	0	1	0	0	1	9	0	0	0	1	
Suri . . .	27.0	..	32.9	25	14.1	..	9.9	2	0.8	1.6	..	1.6	13	0	..	12.9	8.3	..	0	1	0	0	1	0	0	0	0	0	

(d) Mean of 27 days.

(e) Mean of 26 days.

(h) Mean of 23 days.

(R) Register not received.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA) 61

Division and station	Air temperature in °C								Rainfall in millimetres						No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with										
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0800-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0800-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20-a	20-b	21	22	23	24	25	26	27	28	29	
West Bengal—cont.																														
Berhampur	27.8	+0.3	33.9	25	13.3	-0.3	9.8	2	0	0	-21.1	0	..	0	-1.7	4.4	2.0	-0.4	0	0	0	0	0	0	0	0	0	0	0	0
Orissa																														
Baripada	30.2	..	38.3	25	16.1	..	11.9	2	0.2	0.2	..	0.2	13	0	..	4.4	2.3	..	1	0	0	0	1	3	0	0	0	0	0	0
Balasure	28.7	-0.6	36.2	25	17.4	+1.0	13.0	2	6.2	14.5	-20.3	8.3	14	2	-0.4	11.1	5.9	+1.7	0	2	0	0	2	1	0	0	0	0	0	0
Chandbali	26.5	-0.3	31.7	25	17.8	+0.2	12.8	2	0	4.2	-29.1	4.2	15	1	-0.8	9.8	6.7	-0.9	0	1	0	0	0	0	0	0	0	0	0	0
Cuttack	31.4	+0.2	37.0	25	19.5	+1.3	16.1	1	0	16.2	-3.6	13.0	14	1	-0.5	7.6	5.4	+3.0	0	3	0	0	2	0	0	0	0	0	0	0
Bhubaneswar	31.2	..	35.7	25	19.5	..	16.1	2	0	0	..	0	..	0	..	13.7	10.9	..	0	0	0	0	0	1	0	0	0	0	0	0
Puri	28.6	+0.3	32.7	24	22.2	+1.6	16.7	2	0	0	-23.4	0	..	0	-1.2	20.0	19.2	+5.5	0	0	0	0	0	0	0	0	0	0	0	0
Gopalpur	29.4	+0.8	34.1	24	20.8	+1.2	18.1	2	0	0	-22.9	0	..	0	-1.2	19.0	14.7	+2.5	0	0	0	0	0	1	0	0	0	0	0	0
Koraput	28.5	..	31.1	25	15.1	..	12.2	8	0	0	..	0	..	0	..	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0
Titilagarh	30.4	..	35.1	26	17.5	..	14.6	8	0	0	..	0	..	0	..	4.4	2.7	..	0	0	0	0	0	2	0	0	0	0	0	0
Bolangir	31.4	..	35.3	25	17.3	..	12.4	2	0	1.2	..	1.2	5	0	..	7.7	5.4	..	0	1	0	0	0	0	0	0	0	0	0	0
Angul	30.8	+0.4	35.3	25	17.3	+1.0	13.9	3	..	..	..	..	..	..	..	8.6	6.5	+0.9	..	..	0	0	0	4	0	0	0	0	0	0
Koondjhar	28.6	..	32.9	25	14.8	..	10.2	2	0	0	..	0	..	0	..	9.0	6.1	..	0	0	0	0	0	0	0	0	0	0	0	0
Sambalpur	30.4	+0.2	35.4	24	15.6	+0.4	10.8	2	0	3.1	-20.8	3.1	5	1	-1.0	5.6	3.2	-0.7	0	1	0	0	0	0	0	0	0	0	0	0
Jharuguda	30.1	..	35.1	25	14.6	..	9.9	2	0	0	..	0	..	0	..	9.0	7.1	..	0	0	0	0	0	0	0	0	0	0	0	0
Bihar Plateau																														
Jamshedpur	28.8	+0.3	34.5	25	15.0	+0.7	11.2	2	0.9	0.9	-48.6	0.9	13	0	-3.7	7.3	4.5	+0.8	0	1	0	0	0	0	0	0	0	0	1	0
Jamshedpur(P.B.O)	29.4	..	34.8	25	14.9	..	10.6	2	0.1	0.1	..	0.1	13	0	..	2.7	1.4	..	1	0	0	0	1	0	0	0	0	0	0	0
Chaibasa	29.5	+0.7	34.4	25	14.6	+0.5	9.9	2	10.4	10.4	-27.5	10.4	6	1	-1.5	3.5 (g)	1.6 (h)	-1.0	0	1	0	0	0	0	0	0	0	0	0	0
Ranchi	27.0	+2.1	31.5	13	11.8	-1.0	7.6	3	17.1	19.7	-26.0	14.4	13	2	-1.4	4.0 (g)	4.0 (h)	-2.4	0	4	0	0	0	0	0	0	0	0	0	0
Ranchi (C.W.O.)	25.2	..	30.7	25	12.0	..	8.3	1	23.6	24.1	..	18.0	13	2	..	13.7	8.4	..	0	3	0	0	2	0	0	0	0	0	0	0
Daltonganj	26.5	-0.1	31.9	20	11.1	0	4.9	2	2.4	2.9	-29.4	2.3	12	0	-2.4	6.0	2.9	-1.0	0	2	0	0	0	0	0	0	0	0	0	0
Hazaribagh	25.1	0	29.8	25	11.7	-0.6	6.9	2	0	0	-32.0	0	..	0	-2.5	12.5	9.2	+0.3	0	0	0	0	1	1	0	0	0	0	0	0
Dhanbad	26.9	..	32.2	25	14.3	..	10.1	1	4.6	10.0	..	10.0	13	1	..	3.6	4.7	..	0	1	0	1	1	9	0	0	0	0	0	0
Dumka	27.2	+0.3	32.8	25	12.9	-0.3	8.9	2	0	0	-23.9	0	..	0	-2.0	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0
Bihar Plains																														
Purnea	24.9	-1.2	28.8	25	10.7	-0.2	7.2	3	0	0	-15.7	0	..	0	-1.3	8.8	4.8	+1.4	0	0	0	0	0	0	0	0	0	0	0	0
Forbesganj	25.3	..	28.4	25	10.5	..	7.2	18	0	0.5	..	0.5	4	0	..	9.0	6.4	..	0	1	0	0	0	10	0	0	0	0	0	0
Darbhanga	23.2	-2.2	28.4	25	14.8	+3.2	10.8	18	0	0	-13.5	0	..	0	-1.4	5.9	3.5	+0.1	0	0	0	0	0	0	0	0	0	0	0	0
Motihari	24.2	-0.7	29	6	11.0	+1.0	9	9	0	0	-15.2	0	..	0	-1.4	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0
Muzaffarpur . . . . .	..	..	..	..	..	..	..	..	..	0	-14.5	0	..	0	-1.7	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Chapra . . . . .	..	..	..	..	..	..	..	..	..	0.6	-16.7	0.6	13	0	-1.6	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..
Arrah . . . . .	..	..	..	..	..	..	..	..	..	2.4	-18.7	2.4	5	0	-1.6	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..
Patna	24.5	-0.9	29.3	25	12.4	-0.3	9.3	3	0.6	1.8	-17.0	1.8	5	0	-1.6	8.0	7.6	+3.1	0	1	0	0	0	1	0	0	0	0	0	
Patna (Aerodrome)	24.2	..	28.9	25	10.9	..	8.3	2	0.2	2.8	..	2.4	5	0	..	9.3	4.7	..	0	2	0	0	1	2	0	0	0	0	0	
Dhri	25.2	..	29.7	24	13.6	..	9.8	1	5.2	9.3	-12.0	5.2	12	1	-0.8	8.6	4.9	..	0	3	0	1	1	0	0	0	0	0	0	0
Gaya	25.5	-0.8	30.4	25	11.2	-0.4	7.8	10	0.3	0.3	-21.3	0.3	5	0	-1.8	9.0	5.5	-0.9	0	1	0	0	2	1	0	0	0	0	0	0
Jamui	25.2	..	30.1	25	13.3	..	11.6	1,2,5	0	0.6	..	0.3	16	0	..	8.3	4.6	..	0	2	0	0	1	1	0	0	0	0	0	0
Bhagalpur	24.7	..	28.9	25	12.7	..	9.4	2	0	9.9	..	0.5	5	0	..	10.3	7.3	..	0	2	0	0	0	0	0	0	0	0	0	0
Sabour	24.6	-1.1	29.2	25	10.3	-0.5	7.8	2	0	0.8	-19.3	0.4	5, 16	0	-1.7	11.0	5.9	+0.3	0	2	0	0	0	0	0	0	0	0	0	0
Uttar Pradesh																														
(East)																														
Gonda	23.9	-1.7	27.3	28	10.7	-0.1	7.8	1, 18	0	0	-23.1	0	..	0	-2.3	6.1	4.8	-0.2	0	0	0	0	0	0	0	0	0	0	0	0
Nautanwa	24.9	..	27.8	25	10.2	..	6.8	18	1.4	1.4	..	1.4	5	0	..	5.9	3.6	..	0	1	0	0	0	0	0	0	0	0	0	0
Gorakhpur	24.7	-0.7	28.3	25	..	..	..	..	0	0	-16.0	0	..	0	-1.8	7.3	4.9	+2.2	0	0	0	0	0	0	0	0	0	0	0	0
Azamgarh	23.2	..	29.2	28	10.9	..	8.2	9	2.6	2.6	..	2.6	5	1	..	..	..	..	0	1	0	0	0	0	0	0	0	0	0	0
Ballia	24.7	..	29.4	25	10.9	..																								

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA) 63

Division and station	Air temperature in °C								Rainfall in millimetres						No. of rainy days (2·5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with											
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	in 24 hours		in 24 hours		Date	Total in the month	Departure from normal	Mean between 0830-1730 hours		Departure from normal	Precipitation (0·3 and 0·2 mm.)	Precipitation (0·3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust storm	Ground frost	Gale	Squall	Line squall	
										Total fall	Departure from normal	Heaviest fall	Date				Mean	Mean 24 hours													20-a
Rajasthan (West)																															
—contd.																															
Bikaner	25·1	-1·1	33·4	28	8·0	-0·4	3·2	7·8	4·6	6·1	-0·8	6·1	19	1	+0·3	6·8	4·8	-1·0	0	1	0	0	0	0	0	0	0	0	0	0	0
Jaisalmer	26·3	..	32·2	27	11·0	..	3·9	7	0	0	..	0	..	..	..	14·1	9·5	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Phalodi	25·8	..	31·7	28	10·4	..	5·0	5·7	3·4	3·4	-1·4	3·4	19	1	+0·5	17·7	10·2	..	0	1	0	0	0	0	0	0	0	0	0	0	0
Nagaur	26·0	..	32·2	28	9·6	..	3·2	7	0	0	..	0	..	0	..	9·3	6·5	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Jodhpur	27·4	+0·4	32·1	28	11·5	+0·1	4·6	7	0	1·2	-4·9	1·2	19	0	-0·6	11·5	8·3	-2·6	0	1	0	0	0	0	0	0	0	0	0	0	0
Barmer	28·3	+0·9	34·3	28	12·9	-0·2	7·4	1	1·3	1·3	-5·8	1·3	19	0	-0·6	11·7	8·7	+0·8	0	1	0	0	0	0	0	0	0	0	0	0	0
Rajasthan (East)																															
Pilani	24·7	..	29·4	11	7·0	..	2·2	7	0	2·8	..	2·4	19	0	..	12·4	9·5	..	0	2	0	0	0	0	0	0	0	0	0	0	0
Alwar	24·3	..	31·4	28	9·0	..	4·4	1	0	0	..	0	..	0	..	5·7	4·1	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Sikar	23·4	..	31·7	28	7·1	..	0	6	0	2·0	..	1·0	4,19	0	..	10·5	6·9	..	0	2	0	0	0	0	0	0	0	0	0	0	0
Jaipur	25·4	+0·4	31·9	28	9·9	-0·4	4·4	1,7	0	0·4	-7·7	0·4	19	0	-0·8	9·3	6·5	+0·2	0	1	0	0	0	0	0	0	0	0	0	0	0
Jaipur (Sanganer Aerodrome)	25·2	..	31·7	28	9·8	..	3·9	1	1·0	1·0	..	1·0	19	0	..	..	..	..	0	1	0	0	0	0	0	0	0	0	0	0	0
Dholpur	25·1	..	31·7	28	10·2	..	5·4	8	0	0	..	0	..	0	..	6·4	3·9	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Ajmer	24·8	-0·2	30·6	28	9·4	-0·5	3·3	1	0	0	-6·6	0	..	0	-0·7	9·1	6·1	+2·7	0	0	0	0	0	0	0	0	0	0	0	0	0
Kotah	28·4	+0·6	33·3	12	12·3	-0·7	7·7	1	0	0	-5·3	0	..	0	-0·5	6·0	3·1	+0·4	0	0	0	0	0	0	0	0	0	0	0	0	0
Chambal	28·5	..	35·0	28	8·7	..	1·7	1	0	0	..	0	..	0	..	9·5	5·0	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Jhalawar	28·3	+0·4	35·1	28	11·2	+0·4	5·2	1	0	0	-2·0	0	..	0	-0·4	7·3	4·2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Udaipur	27·3	+1·0	32·3	28	9·3	-1·0	2·9	1	0	0	-3·6	0	..	0	-0·5	5·5	3·0	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Erinpura (Jawai Dam)	28·2	..	33·9	14	11·5	..	5·1	7	0	0	..	0	..	0	..	8·0	6·0	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Madhya Pradesh West																															
Gwalior (P.B.O.).	25·0	-1·9	31·2	24,28	9·7	-0·2	5·0	9	0	0·2	-7·9	0·2	16	0	-0·8	8·7	4·8	..	1	0	0	0	0	0	0	0	0	0	0	0	0
Sheopur Kalan . .	27·6	..	32·9	28	9·1	..	3·9	6	0	0	..	0	..	0	..	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Guna	26·7	-0·6	32·2	24	9·7	-0·4	3·4	7	3·2	3·4	-1·4	3·4	16	1	+0·4	11·2	6·2	..	0	1	0	0	0	1	0	0	0	0	0	0	0
Rajgarh	29·0	..	35·7	27	10·2	..	5·0	7	0	0	..	0	..	0	..	10·0	7·3	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Neemuch	27·6	+0·5	33·6	28	11·7	+0·6	6·1	1	0	0	-3·8	0	..	0	-0·4	9·8	7·1	-0·3	0	0	0	0	0	0	0	0	0	0	0	0	0
Ratlam	29·1	..	34·4	28	12·4	..	8·9	2	0	0	..	0	..	0	..	6·6	5·0	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Alirajpur	30·2	..	35·2	23	12·3	..	5·9	1	0	0	..	0	..	0	..	9·0	4·8	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Indore	28·6	-0·1	33·8	28	11·7	+1·1	6·9	1	0	0	-3·6	0	..	0	-0·5	14·8	11·3	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Bhopal (Bairagarh)	28·1	-0·1	33·6	24	11·9	-0·7	7·0	1	0	1·8	-2·0	1·8	4	0	-0·5	13·9	9·9	+2·2	0	1	0	0	0	0	0	0	0	0	0	0	0
Khandwa	32·0	+0·5	35·9	24	13·5	+0·2	7·0	2	0	0	-4·1	0	..	0	-0·4	9·8	6·3	+0·8	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoshangabad . .	30·1	+0·7	34·8	28	13·9	-0·3	8·9	2	0	0	-9·7	0	..	0	-0·9	6·6	4·8	+1·3	0	0	0	0	0	0	0	0	0	0	0	0	0
Betul	29·0	..	33·4	24	11·6	..	6·1	1	0	0	..	0	..	0	..	8·3	4·9	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Chhindwara . . .	27·4	..	31·4	24	11·6	..	6·1	2	0	0	..	0	..	0	..	10·4	5·9	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Seoni	28·8	+0·5	34·3	24	13·2	+0·5	7·9	2	1·0	1·0	-19·6	1·0	11	0	-2·0	9·3	4·9	+0·4	0	1	0	0	0	0	0	0	0	0	0	0	0
Sagar	26·6	-0·7	31·7	24	13·5	+0·3	10·0	7	0	8·8	-3·9	8·0	4	1	-0·2	9·7	6·9	..	0	1	0	0	1	0	0	0	0	0	0	0	0
Nowgong	26·1	-0·6	31·4	24	8·4	-2·0	4·3	9	0	3·6	-10·9	3·6	4	1	-0·3	6·2	3·4	+0·8	0	1	0	0	1	2	0	0	0	0	0	0	
Madhya Pradesh (East)																															
Sutna	26·1	-0·2	31·1	24	11·1	-0·1	6·5	2	2·9	12·2	-7·6	9·3	4	2	+0·2	7·0	3·7	-0·5	0	2	0	0	0	2	0	0	0	0	0	0	
Sidhi	26·2	..	30·9	20	9·3	..	4·4	9	3·6	3·6	..	3·6	5	1	..	9·2	4·2	..	0	1	0	0	1	0	0	0	0	0	0	0	
Umaria	27·3	0	32·2	13	10·1	-0·8	4·8	2	0	15·1	-10·3	15·1	4	1	-0·9	6·6	4·0	0	0	1	0	0	1	2	0	0	0	0	0	0	
Jabalpur	29·1	+1·7	33·8	24	11·4	+0·8	5·5	2	0	3·2	-16·1	3·2	4	1	-0·7	6·1	3·8	+1·1	0	1	0	0	1	1	0	0	0	0	0	0	
Mandla	27·7	..	31·8	24	9·4	..	3·7	2	7·0	7·0	..	7·0	12	1	..	2·5	1·0	..	0	1	0	1	4	0	0	0	0	0	0	0	
Pendra	26·3	+0·7	31·1	25	12·7	+0·2	7·8	2,7	0	1·4	-35·9	1·4	5	0	-2·9	12·3	7·9	..	0	1	0	0	1	0	0	0	0	0	0	0	
Ambikapur	26·0	..	30·6	25	10·1	..	5·1	2	0	6·6	..	6·3	5	1	..	9·8	6·8	..	0	2	0	0	1	1	0	0	0	0	0	0	
Champa	29·4	..	34·1	26	15·7	..	10·6	3	0	5·8	..	5·8	5	1	..	5·3	4·8	..	0	1	0	0	1	0	0	0	0	0	0	0	
Raigarh	30·4	..	35																												

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with													
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall			
																														20a	20b	21
Saurashtra and Kutch																																
Naliya . . .	26.9	..	31.5	23	11.3	..	5.8	5	0	0	..	0	0	0	..	15.4	10.2	..	0	0	0	0	0	10	0	0	0	0	0	0	0	
Bhuj (Aerodrome)	29.3	+0.7	34.5	27	13.1	+0.2	7.4	7	0	0	-4.3	0	0	-0.4	13.2	9.8	+0.5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
Kandla . . .	27.2	..	31.8	23	16.6	..	12.6	7	0	0	..	0	0	..	13.4	13.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mandvi . . .	25.4	..	28.5	24	15.2	..	9.5	5	0	0	..	0	0	..	21.1	17.2	..	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Dwarka . . .	25.7	-0.1	29.9	22	18.3	+1.0	13.3	27	0	0	-6.1	0	0	-0.5	15.2	13.3	-0.7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Porbander . . .	28.1	..	32.1	26,27	15.8	..	10.9	2	0	0	..	0	0	..	16.6	12.4	..	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Porbander (Aerodrome)	13.1	0	0	0	1	0	0	0	0	0	0	0	0
Jamnagar . . .	28.3	-0.5	32.8	19	13.1	+1.1	6.2	1	0	0	-2.0	0	0	-0.2	..	..	..	0	0	0	0	0	4	0	0	0	0	0	0	0	0
Rajkot (Aerodrome)	30.5	+0.2	35.8	23	12.9	+0.5	6.2	6	0	0	-2.3	0	0	-0.3	18.1	14.0	+6.3	0	0	0	0	0	5	0	0	0	0	0	0	0	0	
Surendranagar . . .	30.9	..	35.7	28	15.0	..	9.3	1	0	0	..	0	0	..	12.2	10.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bhavnagar . . .	31.6	+0.9	36.6	28	14.9	+0.7	8.8	1	0	0	-1.5	0	0	-0.2	8.6	7.0	+0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bhavnagar (Aerodrome)	29.9	..	35.4	25	15.5	..	9.7	2	0	0	..	0	0	..	5.4	13.1	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahuva . . .	30.6	..	36.1	25	16.1	..	11.6	1	0	0	..	0	0	..	(c) 12.8	8.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Keshod	12.3	0	0	0	0	0	0	0	0	0	0	0	0
Veraval . . .	28.6	..	34.4	24	15.5	..	11.1	2	0	0	-1.8	0	0	-0.2	18.7	16.0	..	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Konkan																																
Dahanu . . .	27.6	-0.5	32.1	28	17.4	+0.4	13.5	1	0	0	-0.3	0	0	0	20.0	13.0	+1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bombay (Colaba)	29.5	+1.1	33.3	28	20.0	+0.3	16.9	2	0	0	-2.0	0	0	-0.1	12.5	10.2	-1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bombay (Santa-cruz Aerodrome)	30.5	+1.1	35.6	28	17.5	+1.8	13.1	1	0	0	-2.0	0	0	-0.1	13.7	9.4	..	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Alibag . . .	28.4	+0.3	33.3	37	18.4	+0.1	14.3	1	..	0	-0.8	0	0	-0.2	..	9.0	+0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Harnai . . .	27.3	-0.2	29.7	24	22.0	+0.9	19.5	1	0	0	-0.3	0	0	0	17.1	15.0	+1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ratnagiri . . .	29.9	..	35.7	23	19.4	..	16.1	1	0	0	-1.0	0	0	-0.1	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Devgad . . .	29.7	+0.3	31.5	9	21.5	-0.2	18.3	1	0	0	0	0	0	0	17.5	14.0	-6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Vengurla . . .	30.9	..	33.6	8	19.1	..	15.6	1,18	0	0	..	0	0	..	11.7	6.5	..	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
Maharashtra (Including Marathwada)																																
Nandurbar . . .	33.2	..	37.7	24	17.0	..	13.2	2	0	0	..	0	0	..	7.3	5.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jalgaon . . .	33.3	..	37.7	23	14.5	..	9.9	1	0	0	-2.8	0	0	-0.4	13.4	11.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Malegaon . . .	33.5	+1.3	37.4	27	12.7	+0.1	7.2	1	0	0	-2.3	0	0	-0.2	7.3	6.1	-0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Deolali . . .	32.2	..	36.2	23	11.9	..	8.7	17	0	0	..	0	0	..	9.5	6.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Aurangabad . . .	32.8	+1.4	36.2	24	16.2	+0.9	11.7	1	0	0	-4.3	0	0	-0.4	10.6	8.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Aurangabad (Chikhalthana Aerodrome)	32.3	..	35.8	24	12.3	..	8.1	2	0	0	..	0	0	..	11.3	8.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Khandala . . .	..	..	..	..	..	..	..	..	..	0	-3.1	0	0	-0.3	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ahmednagar . . .	33.6	+2.2	36.7	24	14.4	+1.1	9.5	4	0	0	-3.3	0	0	-0.3	7.9	6.7	-1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parbhani . . .	33.3	..	36.7	24,26	16.1	..	10.2	2	0	0	-7.4	0	0	-0.7	9.1	6.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Poona . . .	34.0	+1.5	37.3	24,28	14.0	+1.2	9.3	1	0	0	-1.5	0	0	-0.2	4.6	2.9	-3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Poona (Lohagaon Aerodrome)	33.2	..	36.2	24,28	14.5	..	10.4	2	0	0	..	0	0	..	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baramati . . .	34.5	..	37.4	26	14.5	..	9.9	1	0	0	..	0	0	..	9.0	7.5	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jeur . . .	34.6	..	37.8	24	14.4	..	11.2	17	0	0	..	0	0	..	(d) 8.8	5.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sholapur . . .	34.8	+1.2	37.7	25	18.4	+1.3	14.5	1	0	0	-3.3	0	0	-0.3	(d) 5.3	5.4	-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Miraj . . .	34.3	+1.8	36.7	24	15.6	+0.6	10.2	1	0	0	0	0	0	0	..	..	..	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Kolhapur . . .	34.2	..	36.9	23	16.3	..	10.4	1	0	0	..	0	0	..	9.4	8.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Vidarbha																																
Buldhana . . .	29.9	..	35.8	28	17.7	..	12.7	1	0	0	..	0	0	..	8.7	8.4	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Akola . . .	33.6	+1.0	37.4	23	15.7	+1.4	10.8	1	0	0	-7.6	0	0	-0.6	9.1	5.7	+0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Amravati . . .	32.5	+0.7	36.1	24	17.5	+0.8	12.5	2	0	0	-11.2	0	0	-0.8	10.2	8.0	+1.6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Yeotmal . . .	31.9	..	36.3	24	17.6	..	13.1	1	0	0	..	0	0	..	13.5	10.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nagpur . . .	31.9	-0.2	35.4	24	14.6	-0.7	9.4	1	0	0	-16.5	0	0	-1.4	9.5	6.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gondia . . .	30.1	..	34.6	25	15.3	..	10.0	2	0	1.2	..	1.2	12	0	..	6.5	3.6	..	0	1	0	0	1	0								

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days, (2.5 mm. or more)		Wind speed, km per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0800-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0800-1730 hours	Mean 24 hours	Departure from normal	Precipitation 0.1 and 0.2mm	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														20a	20b
Interior Mysore (South)																															
Bellary	34.8	+0.5	37.0	24, 27, 28	21.3	+2.4	17.1	26	0	0	-4.6	0	0	0	-0.3	8.3	6.0	+1.3	1	0	0	0	0	0	0	0	0	0	0	0	
Chitaldrug	32.7	+0.7	35.6	27	20.5	+1.5	16.6	3	0	0	-2.8	0	0	0	-0.2	7.1	5.8	-0.3	0	0	0	0	0	0	0	0	0	0	0	0	
Shimoga	33.9	..	37.8	25	16.5	..	13.6	4	0	0	..	0	0	0	..	5.9	3.6	..	0	0	0	0	0	5	0	0	0	0	0		
Balehonnur	30.2	+1.1	32.7	28	16.4	+0.8	14.7	5	..	0	-1.5	0	0	0	-0.2	..	..	..	0	0	0	0	0	9	0	0	0	0	0	
Hassan	31.4	+0.8	33.4	28	16.5	+1.2	13.9	13	0	0	-6.1	0	0	0	-6.4	6.6	4.6	-0.1	0	0	0	0	0	1	0	0	0	0	0		
Mysore	32.1	+0.5	34.4	28	18.6	+0.3	15.8	13	0	0	-6.1	0	0	0	-0.5	11.4	8.4	+0.8	0	0	0	0	0	1	0	0	0	0	0		
Bangalore (Central Observatory)	29.9	+0.1	33.3	27	17.3	+1.7	15.0	23	0	71.5	+64.9	31.8	2	3	+2.6	10.0	9.3	+1.7	0	3	0	0	0	0	0	0	0	1	0		
Bangalore (Aerodrome)	31.5	..	34.4	27	17.6	..	15.7	13	0	63.8	..	24.0	2	3	..	..	..	..	0	3	0	0	2	0	0	0	1	1	0	
Kerala																															
Kozhikode	32.4	+1.0	33.4	21, 22	28.8	+1.0	22.2	3, 13, 14	0	1.2	-3.6	1.2	28	0	-0.3	10.0	12.0	+2.2	0	1	0	0	0	0	0	0	0	0	0	0	
Palghat	36.4	..	38.9	26	23.3	..	20.6	23	0	0	..	0	0	0	..	11.6	8.6	..	0	0	0	0	0	0	0	0	0	0	0	0	
Fort Cochin	31.5	+0.9	33.1	8	24.8	+0.6	22.2	22	0	0	-20.3	0	0	0	-1.2	13.1	8.5	+0.8	0	0	0	0	0	0	0	0	0	0	0	0	
Cochin (Naval Air Station)	32.2	..	33.4	23	23.8	..	21.6	13, 14	0	0	..	0	0	0	..	10.1	6.2	..	0	0	0	0	1	0	0	0	0	0	0		
Alleppey	31.7	..	32.6	24	24.0	..	21.7	13	0	69.2	..	65.2	5	1	..	16.4	11.6	..	0	4	0	0	1	0	0	0	0	0	0		
Punalur	35.7	..	37.8	27	21.0	..	15.8	22	0	29.8	..	20.0	5	2	..	7.3	4.2	..	0	2	0	0	0	0	0	0	0	0	0	0	
Trivandrum	31.9	+0.2	34.4	24	23.0	+0.1	21.1	12	0	39.8	+20.5	38.2	2	1	-0.3	9.3	6.1	+0.6	1	2	0	0	3	0	0	0	0	0	0		
Trivandrum (Aerodrome)	31.5	..	33.4	24	23.0	..	20.7	22	..	85.0	..	83.2	2	1	..	..	7.0	..	0	2	0	0	1	0	0	0	0	0	0	
Arabian Sea Islands																															
Mincoy*																															
Hill Stations excluding Kashmir																															
Walong (R).																															
Kohima	15.5	..	19.5	15, 21	8.5	..	3.8	2	2.2	21.8	..	14.4	25	2	..	..	..	..	0	4	0	0	1	0	0	0	0	0	0	0
Aijal	19.9	..	22.2	6, 25	11.8	..	8.2	1	18.0	82.8	..	37.6	25	4	..	1.6	1.0	..	0	7	0	0	0	0	0	0	0	0	0	0	
Shillong	16.2	-0.7	19.8	26	5.3	-0.5	0.3	1	2.3	2.8	-24.1	2.4	23	0	-2.8	4.0	2.9	-0.8	0	2	0	0	0	0	0	0	0	0	0	0	
Cherrapunji	15.5	-1.3	18.1	27	8.2	-1.0	3.6	1	0	15.0	-38.6	13.0	5	1	-2.5	15.0	11.0	+3.0	0	2	0	0	0	0	0	0	0	0	0	0	
Darjiling (Raj Bhawan)	9.1	-1.0	12.8	13, 14, 15	3.1	-0.7	1.1	1, 18	3.8	13.8	-16.4	4.1	23	3	+0.4	2.1	2.2	-1.2	0	6	0	0	0	18	0	0	0	0	0	0	
Kalimpong	16.3	0	20.9	13, 14, 15	9.4	+0.3	5.1	21	0	5.1	-23.6	5.1	23	1	-2.0	6.1	4.3	-6.8	0	1	0	0	0	0	0	0	0	0	0	0	
Katmandu (Hydromet.)	17.5	..	19.9	19	2.4	..	-1.8	8	10.2	33.8	..	20.4	29	4	..	3.1	1.6	..	1	4	0	0	4	16	0	0	0	0	0	0	
Mukteswar (Kumaon)	10.9	+0.6	16.1	10	2.4	+0.3	-1.3	17	16.8	43.1	-21.2	18.4	13	5	+0.3	14.3	13.5	+4.2	0	5	5	0	1	4	0	28	0	0	0	0	
Nainital	11.2	..	16.2	28	3.1	..	-0.6	17	26.0	52.0	..	25.0	13	4	..	10.3	8.4	..	0	5	1	0	0	0	0	0	0	0	0	0	
Joshimath	10.7	..	16.7	10	2.1	..	-3.2	9	65.5	174.1	..	54.8	12	7	..	6.1	7.1	..	1	9	5	0	1	2	0	0	0	0	0	0	
Badrinath	Closed during winter months																														
Lokpal	-2.7	..	-0.8	28	-8.1	..	-9.6	6	..	467.2	..	75.0	12, 20	11	..	..	..	..	0	11	..	..	..	..	..	..	..	..	..	..
Musoorie	11.3	+1.0	18.9	28	2.5	-0.7	-0.9	17	10.2	63.2	-23.4	20.4	12	5	-0.2	9.5	8.8	+1.6	0	6	1	6	3	1	0	0	0	0	0	0	
Simla	9.2	-0.1	14.6	28	2.2	-0.1	-2.6	17	22.1	39.6	-34.6	14.6	5	6	+0.3	5.2	4.7	+2.0	1	9	9	1	0	0	0	2	0	0	0	0	
Dharampore	..	..	..	..	..	..	..	..	..	92.0	+8.4	37.0	5	5	-0.5	..	..	..	0	8	..	..	..	..	..	..	..	..	..	..
Dalhousie	13.9	..	25.7	23	3.5	..	-1.6	16	101.8	259.4	+90.5	69.0	19	11	+2.5	3.1	3.1	..	0	11	0	0	0	0	0	0	0	0	0	0	
Dharamshala	14.9	..	19.7	28	6.8	..	3.9	5	68.1	274.9	..	87.8	19	10	..	5.0	4.5	..	0	10	0	0	3	0	0	0	0	0	0	0	
Abu	21.3	+1.3	25.2	10, 13	11.2	-0.5	5.6	5	0	0	-5.8	0	..	0	-0.6	9.8	8.3	+1.2	0	0	0	0	0	0	0	0	0	0	0	0	
Pachmarhi	25.3	+1.2	29.2	24	9.7	-0.7	2.2	1	0	0	-17.0	0	..	0	-1.5	8.4	5.4	+0.4	0	0	0	0	0	0	0	0	0	0	0	0	
Mahabaleshwar	27.0	+1.8	30.7	27, 28	16.4	+1.8	10.1	4	0	0	-2.5	0	..	0	-0.1	9.9	10.3	+1.0	0	0	0	0	0	0	0	0	0	0	0	0	
Nandi Hills	24.8	..	28.3	26, 27, 28	16.1	..	12.8	10	0	0	..	0	..	0	..	..	7.1	..	0	0	0	0	0	28	0	0	0	0	0	0
Mercara	24.2	+1.2	29.8	22, 25	16.1	+1.1	14.2	3	0	0	-6.1	0	..	0	-0.5	9.9	8.0	+2.7	0	0	0	0	0	0	0	0	0	0	0	0	
Kodaikanal	18.9	+1.1	22.4	24	8.8	+0.2	6.4	10	0	10.6	-28.3	6.0	1	2	-0.4	11.6	12.4	-0.2	0	3	0	0	2	3	0	0	0	0	0	0	
Ootacamund	21.4	+1.7	24.5	25	4.6	-2.0	2.8	14	0	5.0	-7.9	3.0	1	1	-0.1	5.3	3.1	-1.4	0	1	0	0	0	0	0	4	0	0	0	0	
Coonoor	21.7	+0.7	24.4	17	9.7	+0.2	5.7	16	..	40.4	-32.2	22.2	5	2	-0.7	..	6.1	+0.8	0	3	0	0	0	0	0	0	0	0	0	0	0
Sikkim																															
Lachen	6.9	..	9.4	13	-0.4	..	-3.9	22, 24	..	121.3	..	30.5	14	15	..	..	..	..	0	11	4	..	..	..	..	..	..	..	..	..
Tibet																															
Yatung (Chumbi)	8.5	+1.2	9.7	22	-5.6	+0.1	-6.9	15	..	53.1	-1.5	20.3	14	5	+1.1	..	..	..	0	0	5	..	..	..	..	..	..	..	..	..
Lhasa	7.1	..	12.8	24	-6.0	..	-18.4	2	..	0.6	..	9.6	26	0	5.9	..	0	1	0	0	0	0	0	0	0	0	0	0	0
Ceylon																															
Colombo	30.8	-0.3	32.6	14	22.7	+0.4	21.1	27	18.0	68.0	+12.6	46.2	1	2	-1.5	0	6	0	0	2	0	0	0	0	0	0	0	0

*Data given as addenda in December, 1959 issue.

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with													
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall			
																														20a	20b	21
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20a	20b	21	22	23	24	25	26	27	28	29			
Hydrometeorological Observatories—Contd.																																
Kosi Catchment																																
Chantara . . .	18.9	..	21.8	24	7.7	..	5.0	18	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga . . .	14.1	..	17.1	26	4.5	..	-0.8	5	1.3	5.4	..	5.4	28	1	..	5.9	5.0	..	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Barakhshetra . . .	23.7	..	26.6	26	11.7	..	8.8	18	0	0	..	0	..	0	..	9.5	6.0	..	0	0	0	0	2	1	0	0	0	0	0	0	0	0
Angbung . . .	18.6	..	21.4	13	8.7	..	5.9	18	0	14.0	..	10.0	27	2	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	13.9	..	16.6	10	5.2	..	2.1	18	1.2	6.6	..	3.2	27	1	..	..	..	..	0	2	0	0	0	1	0	0	0	0	0	0	0	0
Taplethok . . .	20.5	..	23.9	14	7.1	..	3.4	2	0.5	2.9	..	1.6	1	0	..	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola . . .	4.0	..	7.2	10	-4.5	..	-8.4	1	5.4	34.5	..	17.5	16	4	..	..	..	..	0	8	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur . . .	14.2	..	17.8	13	6.6	..	3.9	1	3.0	6.8	..	3.8	28	1	..	..	..	..	0	3	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	18.2	..	20.3	10	9.5	..	8.1	2	0.2	0.5	..	0.4	27	0	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																																
Gangtok . . .	11.0	..	16.5	13	4.4	..	1.2	1	22.9	87.6	..	24.1	24	10	..	4.0	2.7	..	1	20	0	0	2	8	0	0	0	0	0	0	0	0
Geyzing . . .	14.8	..	19.9	13	6.1	..	3.1	20	3.8	18.2	..	4.5	23	3	..	..	..	..	0	11	..	..	..	..	..	..	..	..	..	..	..	..

(.) Mean of 30 days.

(f) Mean of 25 days.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12 —PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p. h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Depart. normal	Dry bulb	Wet bulb	Dew Point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Bay Islands																												
Maya Bandar . . .	0830	23	1014.4	1011.7	..	25.9	23.1	22.1	26.1	78	..	1.1	..	0.9	0	0	6	0	5	0	0	0	0	0	0	0	22	1
	1730	"	1011.2	1008.6	..	26.8	23.7	22.3	27.0	78	..	1.1	..	4.1	0	0	18	0	16	1	0	0	0	0	1	0	10	0
Long Island . . .	0830	33	1013.9	1010.1	..	27.8	23.4	22.5	26.0	82	..	2.4	..	0.2	0	0	2	0	0	0	0	1	0	0	1	0	26	0
	1730	"	1010.9	1007.1	..	27.0	23.9	22.5	27.3	76	..	2.0	..	0.1	0	0	1	1	0	0	0	0	0	0	0	0	27	0
Port Blair . . .	0530	79	1012.1	1003.1	..	22.1	21.4	21.0	24.6	94	..	1.9	..	3.4	0	0	19	7	6	0	0	0	1	2	3	9	0	
	0830	"	1014.1	1005.2	+0.7	27.8	23.7	21.7	25.7	69	-2	2.3	-0.6	10.1	0	0	28	6	20	2	0	0	0	0	0	0	0	0
	1130	"	1012.7	1001.0	..	30.3	24.2	21.2	25.2	59	..	2.1	..	10.8	0	0	28	4	15	9	0	0	0	0	0	0	0	0
	1730	"	1011.1	1002.2	..	26.3	23.2	21.6	26.3	75	..	2.7	..	9.2	0	0	28	0	21	7	0	0	0	0	0	0	0	0
	2330	"	1012.7	1003.7	..	23.7	22.3	21.6	25.7	89	..	1.9	..	5.7	0	0	21	8	10	1	0	0	0	0	0	0	0	0
Car Nicobar . . .	0830	10	1013.3	1011.9	..	29.2	24.7	22.6	27.5	67	..	3.2	..	6.3	0	0	28	0	20	8	0	0	0	0	0	0	0	0
	1730	"	1010.0	1008.8	..	27.7	24.1	22.7	27.0	74	..	3.1	..	4.5	0	0	28	0	21	6	0	0	0	0	0	0	0	1
Nancowry . . .	0830	26	1013.1	1010.1	..	29.5	25.6	23.9	30.7	72	..	4.2	..	0.3	0	0	2	0	0	0	1	0	0	1	0	0	26	0
	1730	"	1010.1	1007.2	..	28.0	24.9	23.3	29.1	76	..	4.6	..	0.4	0	0	2	0	0	0	2	0	0	0	0	0	0	26	0
Kondul . . .	0830	8	1013.0	1012.1	..	28.3	25.5	24.2	30.5	78	..	4.0	..	12.2	0	0	28	0	27	1	0	0	0	0	0	0	0	0
	1730	"	1010.2	1008.3	..	28.0	25.5	24.2	30.6	80	..	4.5	..	11.5	0	0	28	0	28	0	0	0	0	0	0	0	0	0
Assam (Including Manipur, Tripura).																												
Pasighat . . .	0830	157	1015.7	997.2	..	15.5	13.1	10.9	13.1	75	..	5.1	..	14.0	0	10	15	6	2	0	0	1	1	0	15	3	0	
	1730	"	1012.3	994.0	..	15.9	14.0	12.3	14.5	80	..	4.8	..	5.0	0	2	12	3	0	0	0	0	0	0	0	11	14	0
Digboi . . .	0830	..	..	..	..	15.2	14.0	12.9	15.0	86	..	5.9	..	..	0	0	28	0	7	7	2	4	3	4	1	0	0
	1730	..	..	..	..	18.4	15.8	13.8	16.0	76	..	5.8	..	..	0	0	28	4	5	7	4	2	2	2	2	0	0
Dibrugarh . . .	0830	106	1015.2	1002.7	-1.2	16.5	14.4	12.8	14.8	79	-6	4.5	+0.1	2.8	0	0	20	5	5	8	0	1	0	0	1	8	0	
	1730	"	1011.6	995.2	..	18.0	15.3	13.3	15.2	74	..	4.4	..	1.6	0	0	11	2	7	2	0	0	0	0	0	0	17	0
Dibrugarh (Mohanbari Aerodrome)	0230	111	1012.7	999.5	..	12.9	12.4	11.8	13.9	94	..	5.6	..	2.5	0	0	9	1	5	3	0	0	0	0	0	0	19	0
	0530	"	1013.5	1000.3	..	12.4	12.0	11.5	13.7	94	..	6.1	..	3.2	0	0	10	0	6	2	0	0	0	0	0	2	18	0
	0830	"	1015.5	1002.4	..	16.1	14.2	12.7	14.6	81	..	5.0	..	6.2	0	0	20	3	11	4	0	1	0	0	1	8	0	
	1130	"	1013.8	1000.9	..	19.9	15.9	12.0	14.7	63	..	4.5	..	7.8	0	0	26	3	12	9	1	1	0	0	0	2	0	
	1730	"	1011.7	998.8	..	17.6	14.9	12.9	15.0	75	..	5.3	..	2.6	0	0	10	1	5	3	0	0	0	0	1	0	18	0
North Lakhimpur . . .	2330	"	1013.6	1000.4	..	13.6	12.9	12.2	14.3	92	..	5.1	..	3.6	0	0	11	1	8	1	0	0	1	0	0	0	17	0
	0830	102	1015.1	1003.1	..	15.9	14.3	13.0	15.1	83	..	4.2	..	5.0	0	0	28	3	12	4	4	0	1	3	1	0	0	
	1130	"	1013.8	1001.9	..	20.1	15.9	12.7	14.7	64	..	3.9	..	7.6	0	0	28	1	5	11	6	0	2	2	0	0	1	
	1730	"	1011.3	999.3	..	17.5	15.6	14.1	16.1	81	..	5.0	..	8.0	0	1	27	7	6	2	1	1	3	2	6	0	0	
	0830	97	1016.0	1004.6	-0.2	16.4	14.7	13.5	15.4	84	-4	5.5	-0.3	2.6	0	0	24	9	10	0	2	2	0	1	0	4	0	
Jorhat . . .	1730	"	1012.4	1001.2	..	18.8	16.3	14.6	16.6	79	..	4.1	..	1.8	0	0	16	5	8	1	0	0	0	0	0	2	12	0
	0530	90	1013.0	1002.3	..	12.5	12.4	12.2	14.4	98	..	4.9	..	..	0	0	10	2	2	3	1	0	0	1	1	18	0
	0830	"	1015.0	1004.4	..	15.5	14.6	13.5	15.9	82	..	5.4	..	..	0	0	18	5	9	0	1	0	1	1	1	10	0
	1130	"	1014.3	1003.2	..	20.1	16.2	13.1	15.3	65	..	4.1	..	..	0	4	21	7	13	2	0	1	1	0	1	3	0
Golaghat . . .	1730	"	1010.9	1000.4	..	18.2	15.4	13.2	15.3	74	..	4.2	..	..	0	1	20	8	9	1	1	1	0	0	1	7	0
	0830	..	..	..	..	15.8	14.2	12.5	14.8	83	..	6.0	..	..	0	0	4	0	0	0	3	0	0	0	1	24	0
	1730	..	..	..	..	20.7	16.6	13.2	15.5	65	..	5.1	..	..	0	0	6	0	0	0	6	0	0	0	0	22	0
	0830	..	..	..	..	15.7	14.2	12.9	13.6	86	..	..	..	..	0	0	28	4	6	9	5	0	0	3	1	0	0
Gohpur . . .	1730	..	..	..	..	19.6	16.1	13.7	15.1	69	..	..	..	..	0	0	28	5	7	8	2	0	3	2	1	0	0
	0830	79	1015.4	1006.1	-1.3	17.0	14.9	13.0	15.8	78	-3	3.5	+0.5	2.1	0	0	14	0	11	3	0	0	0	0	0	0	14	0
Tezpur . . .	1730	"	1011.2	1002.1	..	20.6	15.9	12.1	14.2	60	..	3.1	..	1.5	0	0	11	0	10	0	0	0	1	0	0	0	17	0
	0230	78	1012.8	1003.5	..	14.5	13.7	13.0	15.0	92	..	4.0	..	3.9	0	0	13	0	7	5	0	0	0	1	0	15	0	
	0530	"	1013.3	1004.0	..	12.9	12.5	12.0	14.2	95	..	4.2	..	4.5	0	0	18	2	9	6	1	0	0	0	0	10	0	
	0830	"	1015.4	1006.1	..	16.8	14.8	13.1	15.2	79	..	3.6	..	6.9	0	0	28	6	15	6	1	0	0	0	0	0	0	
	1130	"	1014.2	1005.0	..	21.1	16.9	13.9	15.9	64	..	3.9	..	9.0	0	1	26	2	12	9	2	1	0	1	0	1	0	
	1730	"	1011.4	1002.2	..	19.2	16.0	13.6	17.4	70	..	3.1	..	5.1	0	0	19	2	5	9	0	0	1	2	0	9	0	
	2330	"	1013.7	1004.4	..	15.8	14.4	13.2	15.3	85	..	4.0	..	5.0	0	0	19	1	7	7	0	1	2	1	0	9	0	
Majbat . . .	0830	..	..	..	..	..	..	..	..	..	..	5.0	..	9.1	0	0	27	2	8	13	3	1	0	0	0	1	0
	1730	..	..	..	..																			

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p. h.)			No. of observations									
			At mean sea level or height in grams of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	17 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Assam (Including Manipur, Tripura)—Contd.																											
Gauhati (Bhorjor Aerodrome).	0230	54	1011.9	1005.5	..	14.4	13.3	12.2	14.4	87	..	2.3	..	3.2	0	0	12	0	4	4	0	1	3	0	0	16	0
	0530	"	1012.3	1005.9	..	12.8	12.0	11.3	13.4	91	..	3.0	..	2.3	0	0	10	0	5	2	0	0	2	1	0	18	0
	0830	"	1014.6	1008.3	..	17.6	14.9	12.7	14.8	74	..	3.0	..	4.3	0	0	17	0	6	5	2	0	0	2	2	11	0
	1130	"	1013.0	1006.8	..	22.6	16.4	11.3	13.8	50	..	2.4	..	10.2	0	3	25	9	9	2	0	0	0	3	5	0	0
	1730	"	1010.3	1004.7	..	21.3	16.0	11.7	13.9	56	..	4.1	..	4.5	0	1	17	2	7	1	0	1	2	2	3	10	0
Rangiya	0830	..	..	..	..	16.9	14.9	12.9	15.5	78	..	2.9	..	6.3	0	0	26	1	5	12	7	0	0	0	1	2	0
	1730	..	..	..	..	22.0	17.2	13.6	15.1	59	..	2.1	..	1.4	0	0	11	1	1	4	1	2	0	1	17	0	
Goalpara (R)	0830	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dhubri	0830	35	1015.0	1010.5	-1.0	18.6	14.7	13.4	13.6	72	-4	0.7	-1.3	3.7	0	0	18	0	9	4	3	0	2	0	0	10	0
	1730	"	1011.1	1007.0	..	20.9	16.2	12.8	17.9	60	..	1.0	..	1.9	0	0	11	0	2	0	4	0	2	1	2	17	0
Dhubri (Rupsi Aerodrome).	0530	36	1011.6	1007.3	..	11.6	10.9	10.4	12.4	92	..	1.8	..	2.3	0	0	10	0	2	5	1	0	1	1	0	18	0
	0830	"	1013.7	1009.5	..	17.7	15.0	12.9	14.8	74	..	1.3	..	7.2	0	0	28	1	4	11	6	1	4	1	0	0	0
	1130	"	1012.8	1008.7	..	22.8	16.4	11.7	13.5	49	..	1.8	..	10.3	0	1	26	0	2	6	9	2	1	6	1	1	0
	1730	"	1009.7	1005.6	..	20.0	16.2	13.2	15.3	66	..	2.2	..	1.8	0	0	7	1	1	0	0	0	2	2	1	21	0
Tura	0830	370	1015.4	972.6	..	16.2	12.8	9.9	12.0	68	..	1.5	..	4.4	0	0	26	0	0	8	10	5	1	2	0	2	0
	1730	"	1011.4	969.6	..	22.8	15.5	10.8	12.5	42	..	2.5	..	5.8	0	0	28	1	1	1	3	8	12	2	0	0	0
Agartala	0230	16	1011.6	1009.7	..	14.3	13.5	12.9	14.8	91	..	1.8	..	5.1	0	2	12	1	0	1	3	7	1	0	1	14	0
	0530	"	1011.9	1010.0	..	13.4	12.8	12.3	14.3	93	..	2.3	..	4.2	0	1	17	1	0	1	8	6	2	0	0	10	0
	0830	"	1014.1	1012.3	..	19.4	16.6	14.6	16.6	74	..	2.4	..	3.9	0	0	22	2	1	1	7	3	4	2	2	6	0
	1130	"	1013.5	1011.7	..	25.1	18.1	12.7	14.8	48	..	2.6	..	11.2	0	11	16	1	0	0	2	5	5	4	10	1	0
	1730	"	1010.3	1008.4	..	23.0	17.1	12.6	14.8	53	..	1.8	..	6.1	0	1	23	1	0	1	2	4	9	3	4	4	0
Kailashar (C.W.O.).	0530	29	1014.2	1010.7	..	13.9	13.3	12.7	14.9	93	..	1.8	..	4.3	0	0	17	1	0	0	0	15	1	0	0	11	0
	0830	"	1015.0	1011.6	..	17.2	15.2	13.5	15.7	79	..	1.8	..	5.7	0	0	25	4	0	0	2	16	3	0	0	3	0
	1130	"	1014.3	1010.9	..	24.3	17.6	12.3	14.7	49	..	2.3	..	7.0	0	0	24	9	0	1	0	7	4	1	2	4	0
	1730	"	1011.4	1008.1	..	22.2	17.3	13.5	15.7	61	..	1.3	..	2.1	0	0	11	2	0	1	0	4	3	0	1	17	0
Silchar	0830	29	1015.4	1011.9	-0.7	18.1	15.5	13.3	15.6	74	-3	2.0	-0.3	2.0	0	0	19	0	6	7	6	0	0	0	0	9	0
	1730	"	1011.1	1007.7	..	21.9	17.3	14.0	15.8	62	..	1.4	..	0.3	0	0	3	0	0	1	1	0	0	0	1	25	0
Silchar (Kumbhigram Aerodrome).	*0530	97	1011.4	1000.3	..	13.2	12.3	11.5	13.6	89	..	2.7	..	9.0	0	0	27	0	1	25	1	0	0	0	0	0	0
	*0830	"	1013.9	1002.5	..	17.1	14.8	12.9	15.0	76	..	2.3	..	8.2	0	0	27	0	2	20	4	1	0	0	0	0	0
	*1730	"	1012.4	1001.3	..	22.8	16.7	11.8	14.0	52	..	2.4	..	6.6	0	0	25	0	1	9	8	3	3	1	0	3	0
Imphal	0530	801	1016.4	923.6	..	7.8	7.3	6.7	9.9	93	..	2.7	..	1.7	0	0	13	2	2	1	1	1	3	2	1	15	0
	0830	"	1016.5	925.6	..	13.8	11.1	8.7	11.3	72	..	2.6	..	3.5	0	0	19	1	1	1	3	6	5	1	1	9	0
	1130	"	1012.8	923.9	..	19.4	13.2	8.0	10.2	50	..	2.8	..	15.1	0	12	15	1	1	0	1	8	9	7	0	1	0
	1730	"	1011.5	922.1	..	17.1	12.0	7.2	10.3	54	..	3.1	..	9.2	0	1	27	0	1	0	1	2	8	15	1	0	0
	2330	"	1015.7	924.0	..	10.9	9.5	8.0	10.9	84	..	2.9	..	3.3	0	0	17	1	0	1	1	5	4	3	2	11	0
Haflong	0830	682	1014.2	936.8	..	15.6	12.4	9.8	11.9	69	..	2.0	..	8.0	0	0	28	3	4	1	0	5	14	1	0	0	0
	1730	"	1010.0	933.5	..	17.9	13.1	8.9	11.2	57	..	3.1	..	10.8	0	3	25	0	1	0	0	4	21	1	1	0	0
Lumding	0830	149	1014.8	997.5	..	15.5	13.4	11.8	13.7	79	-8	3.0	..	0.9	0	0	4	0	2	0	2	0	0	0	0	24	0
	1730	"	1009.9	993.0	..	22.8	16.4	10.8	25.7	48	..	4.6	..	3.2	0	0	11	0	3	0	1	0	7	0	0	17	0
Sub-Himalayan West Bengal.																											
Cooch-Bihar (C.W.O.).	0830	43	1014.6	1009.4	..	17.2	14.6	12.7	14.5	75	..	1.1	..	9.0	0	2	20	0	5	13	1	0	1	1	1	6	0
	1130	"	1013.5	1008.5	..	22.4	6.5	11.8	14.0	52	..	1.4	..	10.0	0	4	24	0	3	10	5	1	3	2	0	0	4
	1730	"	1010.7	1005.6	..	20.7	16.3	13.0	14.9	62	..	2.7	..	2.4	0	0	9	1	3	1	0	0	1	2	1	19	0
Jalpaiguri	0830	83	1014.8	1004.8	-0.7	14.4	12.9	11.4	14.1	83	+3	1.1	-0.6	4.2	0	0	21	4	4	7	0	0	0	4	2	7	0
	1730	"	1010.7	1001.1	..	22.8	15.7	9.3	12.0	43	..	1.3	..	8.4	0	1	26	2	4	1	5	0	11	4	0	1	0
Bagdogra	0230	131	1011.4	995.9	..	13.9	12.7	11.8	14.4	88	..	2.3	..	1.5	0	0	12	10	0	0	0	0	0	2	0	16	0
	0530	"	1011.7	996.1	..	11.1	10.7	10.2	12.8	95	..	2.9	..	2.8	0	0	17	14	1	1	0	0	0	1	0	11	0
	0830	"	1013.9	998.6	..	16.9	14.6	12.6	15.0	77	..	2.1	..	5.2	0	0	22	4	8	9	0	0	0	1	0	6	0
	1130	"	1013.0	997.9	..	22.2	17.0	13.1	15.0	57	..	2.7	..	9.4	0	0	27	0	3	17	5	1	0	1	0	1	0
	1730	"	1009.9	994.8	..	19.9	16.3	13.5	16.3	67	..	4.7	..	6.9	0	1	24	7	3	0	1	1	9	4	0	3	0
	2330																										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km p h.)			No. of observations											
			At mean sea level or height in gpm. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		6a or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Gangetic West Bengal	Dum Dum	0230	6	1012.0	1011.2	..	16.1	15.2	14.5	16.7	91	..	0.7	..	3.4	0	0	17	9	0	0	1	1	4	0	2	11	0	
		0530	"	1012.4	1011.6	..	14.9	14.3	13.7	15.9	93	..	1.6	..	3.3	0	0	18	8	0	0	2	2	2	2	2	10	0	
		0830	"	1014.8	1014.0	..	20.7	17.1	14.4	16.5	69	..	0.9	..	6.0	0	0	26	11	5	2	3	1	2	0	2	2	0	
		1130	"	1014.0	1013.3	..	26.0	18.7	13.3	15.8	47	..	1.1	..	7.1	0	0	28	10	2	0	0	5	1	6	4	0	0	
		1730	"	1010.7	1010.0	..	25.1	19.5	15.7	18.2	57	..	1.1	..	1.9	0	0	12	5	0	0	0	3	3	0	1	16	0	
Cacuta		0830	6	1014.5	1013.7	-0.7	20.9	16.5	13.0	15.2	62	-17	0.7	-1.6	7.0	0	1	23	6	9	1	0	1	4	0	3	4	0	
		1130	"	1013.7	1013.0	..	26.6	17.8	10.5	13.2	39	..	0.9	..	10.6	0	3	25	11	4	1	0	0	5	1	6	0	0	
		1730	"	1010.5	1009.8	..	25.8	18.0	12.0	14.4	44	..	0.7	..	5.0	0	1	22	5	1	0	0	4	2	4	7	5	0	
Barrackpore		0530	7	1012.4	1011.6	..	15.2	14.3	13.6	15.6	91	..	1.3	..	3.3	0	0	13	4	2	0	0	1	3	1	2	15	0	
		0830	"	1014.9	1014.1	..	20.7	17.2	14.1	16.9	69	..	0.9	..	5.3	0	0	15	6	2	1	0	0	2	1	3	13	0	
		1130	"	1014.3	1013.5	..	25.6	18.3	12.9	15.2	47	..	0.6	..	10.6	0	1	26	10	4	2	0	1	1	3	6	1	0	
		1730	"	1010.7	1009.9	..	24.5	18.6	14.3	16.6	55	..	0.7	..	2.9	0	1	10	1	0	0	1	2	2	2	3	17	0	
Saugor Island		0830	3	1014.0	1013.7	-0.9	22.0	19.0	17.0	19.4	74	-4	1.3	-1.3	16.5	0	8	20	9	11	1	0	3	3	0	1	0	0	
		1730	"	1010.6	1010.3	..	24.8	20.3	17.1	20.4	65	..	1.4	..	12.8	0	2	26	4	5	0	5	9	4	0	1	0	0	
Sandheads		0530	10	1011.9	1010.7	..	23.7	20.6	18.5	21.8	74	..	2.3	..	14.5	0	9	15	7	3	0	0	1	9	0	4	4	0	
		0830	"	1014.4	1013.3	-0.8	24.6	20.5	17.9	21.1	67	-3	1.8	0	15.7	0	11	15	5	9	0	1	0	7	1	3	2	0	
		1130	"	1014.1	1013.0	..	25.3	20.5	17.3	20.2	63	..	0.7	..	15.0	0	9	17	7	7	0	0	0	8	2	2	2	0	
		1730	"	1011.3	1010.2	..	25.7	20.5	17.2	20.3	61	..	1.4	..	12.2	0	4	22	1	8	2	5	4	4	0	2	2	0	
Contai		0830	11	1014.3	1013.1	..	22.1	18.1	14.5	17.2	65	..	0.7	..	4.9	0	0	25	15	0	1	0	0	5	0	1	6	0	
		1730	"	1010.9	1009.7	..	24.7	19.7	16.2	18.8	60	..	0.7	..	4.1	0	0	18	0	0	0	2	12	4	0	0	10	0	
Midnapore		0830	45	1014.9	1009.6	-0.3	22.5	16.3	11.3	13.5	51	-13	0.2	-1.8	5.0	0	0	21	7	9	0	0	2	2	1	0	7	0	
		1730	"	1010.2	1005.0	..	27.1	17.6	9.9	12.1	36	..	0.9	..	3.2	0	0	21	8	5	0	2	3	2	1	0	7	0	
Purulia		0830	255	1015.5	986.0	..	19.4	14.1	9.1	11.8	53	..	0.6	..	3.0	0	0	18	5	0	0	1	1	3	1	7	10	0	
		1730	"	1010.4	981.6	..	25.2	16.3	8.4	11.3	37	..	1.4	..	2.3	0	0	19	4	2	0	2	0	1	4	6	9	0	
Burdwan		0830	32	1016.3	1012.3	+0.8	21.5	16.4	12.2	14.6	59	-8	1.4	-0.9	0.4	0	0	3	0	0	0	0	0	0	2	0	1	25	0
		1730	"	1013.9	1009.6	..	26.2	22.4	20.0	23.9	70	..	2.1	..	2.7	0	0	16	7	0	0	0	3	0	3	3	12	0	
Krishnagar		0830	15	1015.1	1013.4	-0.2	20.6	15.6	11.5	14.3	57	-16	0.4	-1.8	2.4	0	0	19	8	2	0	0	3	1	3	2	9	0	
		1730	"	1011.0	1009.3	..	25.2	17.7	12.3	14.2	45	..	0.4	..	0.4	0	0	4	0	0	0	0	1	0	2	1	24	0	
Asansol		0230	126	1012.5	997.7	..	16.4	14.4	12.8	15.0	80	..	0.6	..	0.7	0	0	5	0	0	0	0	0	1	0	4	23	0	
		0530	"	1012.9	998.0	..	15.0	13.8	12.8	15.0	88	..	0.8	..	0.9	0	0	6	0	0	0	0	0	2	1	3	22	0	
		0830	"	1014.9	1000.5	+0.1	19.2	15.8	12.8	14.7	65	+2	0.9	-1.2	4.0	0	0	21	2	1	0	3	0	0	5	10	7	0	
		1130	"	1014.5	999.6	..	24.9	18.5	13.6	16.2	51	..	0.4	..	10.1	0	0	28	2	1	0	3	2	3	5	12	0	0	
		1730	"	1010.5	996.1	..	24.9	18.9	14.4	16.8	55	..	1.1	..	4.7	0	0	19	1	0	1	1	0	2	4	10	9	0	
Suri		0830	77	1015.0	1006.1	..	20.1	14.2	8.7	11.6	50	..	0.7	..	6.4	0	0	26	2	1	0	0	3	5	9	6	2	0	
		1730	"	1011.3	1002.5	..	25.3	15.6	5.8	9.9	32	..	0.9	..	6.7	0	0	28	2	1	0	1	2	7	10	5	0	0	
Berhampore		0830	19	1014.5	1012.2	-0.9	17.2	14.1	11.8	13.5	71	+1	0.7	-1.5	1.7	0	0	10	1	0	1	0	1	0	7	0	18	0	
		1730	"	1010.3	1008.1	..	25.2	16.6	9.6	12.1	39	..	0.5	..	1.4	0	0	10	1	0	1	0	2	0	6	0	18	0	
Orissa	Baripada	0830	54	1015.6	1009.3	..	20.6	16.2	12.5	15.4	61	..	0.5	..	2.3	0	0	18	9	2	1	1	0	0	0	5	10	0	
		1730	"	1011.0	1004.9	..	27.1	18.9	12.9	15.5	44	..	0.7	..	2.0	0	0	13	0	1	0	4	4	4	0	0	15	0	
Balasore		0830	20	1014.7	1012.4	-0.5	22.9	17.4	13.5	15.4	58	-11	0.7	-1.3	9.8	0	5	22	13	6	0	1	3	4	0	0	1	0	
		1730	"	1010.7	1008.4	..	24.7	19.2	15.6	17.7	58	..	1.4	..	4.6	0	0	22	0	0	0	11	9	2	0	0	6	0	
Chandbali		0830	6	1014.8	1014.1	-0.1	23.0	19.8	18.2	20.8	74	-3	1.1	-1.1	9.4	0	0	23	11	3	0	0	2	3	1	3	5	0	
		1730	"	1011.0	1010.3	..	25.8	19.6	17.1	18.0	61	..	0.8	..	5.1	0	0	24	0	4	5	11	4	0	0	0	4	0	
Ottack		0830	27	1014.4	1011.3	-0.8	22.1	19.5	18.0	20.8	78	+2	1.2	-1.1	2.2	0	0	5	0	5	0	0	0	0	0	0	0	23	0
		1730	"	1010.3	1007.3	..	29.2	21.5	16.7	19.2	49	..	1.2	..	1.8	0	0	5	0	0	0	0	1	4	0	0	23	0	
Bhubaneswar		0230	46	1011.8	1006.4	..	21.4	19.6	18.5	21.3	84	..	1.0	..	5.6	0	0	25	3	6	0	1	5	8	2	0	3	0	
		0530	"	1012.1	1006.6	..	20.1	18.7	17.8	20.3	87	..	0.8	..	5.3	0	0	25	7	6	0	1	3	4	4	0	3	0	
		0830	"	1014.5	1009.1	..	23.5	19.9	17.4	20.3	70	..	1.3	..	7.9	0	1	25	6	11	1	1	1	2	4	0	2	0	
		1130	"	1013.9	1008.6	..	28.6	20.6	15.5	17.8	46	..	1.7	..	12.0	0	4												

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, kms. per hour	Wind speed (km. p. h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		6 or more	10 to 19	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Orissa—Contd.																											
Gopalpur	0530	17	1012.3	1010.3	..	21.3	20.1	18.9	22.8	88	..	0.9	..	5.0	0	0	19	7	0	0	0	0	3	2	7	9	0
	0830	"	1014.6	1012.6	-0.2	24.5	21.4	19.6	23.9	75	+2	1.2	0	8.6	0	2	21	9	1	0	0	2	3	2	6	5	0
	1130	"	1013.9	1012.0	..	28.5	23.6	21.0	24.9	64	..	1.4	..	17.8	0	9	19	1	2	6	6	9	4	0	0	0	0
	1730	"	1010.9	1009.0	..	26.1	23.1	21.5	25.7	76	..	1.1	..	23.9	0	14	14	0	0	2	9	7	10	0	0	0	0
	2330	"	1012.9	1011.0	..	24.4	22.4	21.5	25.7	84	..	1.7	..	16.2	0	11	14	1	1	1	1	3	14	4	0	3	0
Keraput	0830	913	1535.2	913.9	..	19.9	16.2	13.5	15.3	67	..	0.4	..	3.3	0	0	28	1	0	0	0	8	16	3	0	0	0
	1730	"	1526.2	911.2	..	25.9	16.4	8.9	11.6	36	..	0.6	..	4.2	0	0	28	5	0	0	0	0	2	3	18	0	0
Titilagarh	0830	211	1014.3	990.0	..	22.1	17.4	14.0	15.8	60	..	0.3	..	1.5	0	0	13	1	1	0	5	2	2	1	1	15	0
	1730	"	1009.3	985.9	..	30.4	19.7	12.2	13.8	34	..	0.7	..	2.6	0	0	24	9	9	0	1	2	2	1	0	4	0
Bolangir	0830	190	1014.0	992.0	..	20.9	16.5	13.4	15.2	65	..	0.3	..	3.8	0	0	28	12	5	2	2	2	2	0	3	0	0
	1730	"	1011.0	989.6	..	30.0	18.8	9.8	12.6	31	..	1.7	..	5.0	0	0	28	11	4	1	1	2	3	0	6	0	0
Angul	0830	139	1015.0	999.9	+0.1	21.5	17.7	14.8	16.8	68	+1	1.8	-0.6	3.4	0	0	23	3	1	4	2	1	2	7	3	5	0
	1730	"	1010.2	994.7	..	29.5	18.9	10.7	13.3	33	..	0.5	..	5.4	0	0	25	3	3	3	1	0	4	6	5	3	0
Keonjhar	0830	463	1014.8	959.4	..	19.9	15.3	11.7	13.6	61	..	0.8	..	4.6	0	0	24	8	1	2	2	3	2	1	5	4	0
	1730	"	1009.9	955.9	..	26.5	17.3	10.6	12.7	38	..	0.9	..	4.6	0	0	28	0	1	0	0	0	1	19	7	0	0
Sarnalpur	0830	148	1014.7	997.8	-0.2	21.8	16.5	12.3	14.5	57	-8	0.1	-1.6	2.1	0	0	13	3	6	1	2	1	0	0	0	15	0
	1730	"	1010.1	993.4	..	27.9	18.5	11.1	14.1	38	..	0.4	..	3.1	0	0	17	6	1	0	1	0	2	2	5	11	0
Jharsuguda	0230	230	1012.2	984.7	..	16.9	14.1	11.6	13.9	72	..	0.3	..	1.7	0	0	10	7	0	2	0	0	0	1	0	18	0
	0530	"	1012.7	985.8	..	15.2	13.3	11.6	13.7	80	..	0.1	..	3.8	0	0	18	9	4	4	0	0	0	0	1	10	0
	0830	"	1014.9	988.3	..	19.9	14.9	10.5	12.9	57	..	0.3	..	7.1	0	0	26	12	9	3	0	2	0	0	0	2	0
	1130	"	1013.6	987.7	..	26.5	17.1	9.4	11.8	35	..	0.4	..	6.5	0	1	24	2	6	2	3	2	2	4	4	3	0
	1730	"	1000.9	984.1	..	26.7	16.7	7.9	10.9	31	..	0.9	..	8.4	0	0	25	1	1	0	1	2	3	14	3	3	0
	2330	"	1012.7	986.2	..	19.8	15.0	10.9	13.0	58	..	0.1	..	3.6	0	0	17	7	1	3	0	0	1	3	2	11	0
Bihar Plateau																											
Jamshedpur	0830	129	1015.0	999.9	-0.3	18.9	14.7	11.0	14.0	62	-10	0.5	-1.8	3.3	0	0	22	1	0	1	0	0	1	13	6	6	0
	1730	"	1009.8	995.3	..	27.1	17.4	9.4	12.1	35	..	1.0	..	5.8	0	3	19	3	2	1	0	0	0	4	12	6	0
Jamshedpur (P.B.O.)	0530	145	1013.5	996.1	..	15.8	13.4	11.3	13.6	76	..	0.7	..	2.4	0	0	15	1	1	0	0	0	1	6	15	4	0
	0830	"	1015.0	998.1	..	20.6	15.1	10.4	12.7	53	..	0.9	..	3.5	0	0	24	1	1	0	0	0	1	6	15	4	0
	1130	"	1013.8	997.3	..	25.9	16.7	8.4	11.6	35	..	0.7	..	7.2	0	0	27	2	3	1	1	0	6	5	9	1	0
	1730	"	1009.9	993.5	..	26.6	16.9	8.7	11.0	34	..	1.3	..	5.7	0	0	22	5	5	1	0	0	1	3	7	6	0
	2330	"	1012.9	996.1	..	19.8	15.3	11.5	13.6	61	..	0.6	..	2.3	0	0	15	1	6	2	1	0	0	1	4	13	0
Chaibasa	0830	226	1014.9	988.8	-0.2	19.8	14.8	10.2	12.8	57	-14	0.7	-1.4	1.0	0	0	9	0	3	0	1	0	5	0	0	19	0
	1730	"	1009.8	984.4	..	26.9	17.4	9.4	12.3	35	..	1.2	..	1.3	0	0	8	0	2	0	0	0	4	0	2	20	0
Ranchi	0830	655	1013.4	939.5	-1.2	18.2	14.6	12.1	14.0	68	+14	0.8	-1.3	1.4	0	0	9	0	1	1	1	2	1	2	1	19	0
	1730	"	1010.6	937.9	..	21.8	17.8	15.0	17.7	67	..	1.2	..	0	0	0	7	4	0	0	0	1	1	0	1	21	0
Ranchi (C.W.O.)	0530	652	1013.3	938.5	..	12.7	10.0	7.3	10.3	71	..	0.5	..	1.7	0	0	7	4	0	0	0	1	1	0	3	10	0
	0830	"	1014.5	940.7	..	17.0	12.6	8.6	11.3	60	..	0.9	..	4.5	0	0	18	9	0	0	1	1	4	0	3	10	0
	1130	"	1013.2	940.6	..	21.9	14.0	6.8	10.0	39	..	1.1	..	9.6	0	0	25	2	0	0	0	1	7	4	6	4	0
	1730	"	1010.8	938.1	..	20.6	14.1	8.7	11.3	50	..	1.6	..	8.9	0	0	20	2	0	0	0	1	7	4	6	4	0
Daltonganj	0830	221	1015.2	989.5	-0.5	17.8	13.9	10.3	12.7	63	-10	1.0	-0.6	1.5	0	0	13	0	0	3	0	3	1	4	2	15	0
	1730	"	1010.6	985.5	..	24.2	15.9	8.6	11.4	41	..	1.3	..	2.4	0	0	14	3	1	0	0	0	1	3	6	14	0
Hazariabagh	0830	611	1014.7	945.2	-0.2	16.9	11.9	7.3	9.9	55	-5	0.9	-1.3	5.3	0	0	22	2	0	0	0	4	2	3	11	6	0
	1730	"	1010.4	942.2	..	21.5	14.1	7.6	9.8	42	..	1.1	..	8.5	0	0	26	6	2	0	0	0	1	2	15	2	0
Dhanbad	0830	257	1014.6	984.9	..	19.6	15.0	8.7	11.6	51	..	0.4	..	3.5	0	0	28	3	0	2	2	7	2	9	3	0	0
	1730	"	1010.3	981.2	..	24.3	16.0	8.6	11.5	39	..	0.9	..	3.7	0	0	21	8	2	1	0	1	1	2	6	7	0
Dumka	0830	149	1015.2	997.9	-0.1	20.0	14.8	10.4	12.6	55	-4	0.6	-1.0	4.3	0	0	26	0	2	2	3	0	0	11	8	2	0
	1730	"	1010.6	993.6	..	24.0	16.1	9.1	11.8	42	..	0.7	..	3.6	0	0	24	3	2	0	0	0	1	10	8	4	0
Bihar Plateau																											
Purnea	0830	38	1014.6	1010.2	-0.6	17.2	13.9	11.1	13.2	68	-8	0.3	-1.4	3.7	0	0	22	0	1	4	0	0	8	9	0	6	0
	1730	"	1010.7	1006.4	..	20.8	16.2	12.6	14.5	61	..	0.4	..	1.7	0	0	12	0	0	0	0	0	6	6	0	16	0
Forbesganj	0830	61	1014.1	1007.0	..	15.1	13.2	11.5	13.6	80	..	1.0	..	6.1	0	2	25	0	1	8	0	0	0	15	3	1	0
	1730	"	1010.3	1003.4	..	22.5	17.1	13.0	14.9	56	..	0.8															

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, kms. per hour	Wind speed (kms. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Bihar—Cont. Patna (Aerodrome)	0530	60	1012.0	1004.9	..	11.9	10.8	9.8	12.1	87	..	1.5	..	3.7	0	0	11	0	1	0	1	0	2	7	0	17	0	
	0830	..	1013.8	1006.6	..	15.8	13.0	10.4	12.7	72	..	1.3	..	9.0	0	0	23	0	0	2	1	1	6	12	1	5	0	
	1130	..	1013.7	1006.8	..	21.8	15.5	10.0	12.4	48	..	1.6	..	13.5	0	2	25	0	0	1	2	4	1	10	9	1	0	
	1730	..	1010.5	1003.5	..	22.5	16.2	11.3	13.3	50	..	1.2	..	8.1	0	1	20	0	1	0	0	0	0	11	9	7	0	
	2330	52	1013.1	1007.1	..	19.5	16.6	14.9	16.5	75	..	0.2	..	0.2	0	0	2	0	0	1	0	0	0	0	1	26	0	
Dehri	0830	107	1014.6	1002.0	..	18.2	14.1	10.6	12.1	64	..	1.2	..	3.3	0	0	28	0	1	1	2	4	11	8	1	0	0	
	1730	..	1010.5	998.3	..	23.9	16.4	9.7	12.6	43	..	0.8	..	4.0	0	0	27	3	0	2	1	0	0	17	4	1	0	
Gaya	0230	116	1013.2	999.4	..	13.7	12.0	10.3	12.7	81	..	0.4	..	4.6	0	0	19	0	0	1	2	5	4	4	3	9	0	
	0530	..	1013.2	999.3	..	12.4	11.2	9.9	12.5	85	..	0.4	..	5.7	0	0	24	0	0	1	5	4	10	2	2	4	0	
	0830	..	1015.1	1001.5	-0.2	17.2	13.9	10.9	13.2	68	+8	0.6	-1.2	7.7	0	0	26	0	0	0	5	1	12	5	3	2	0	
	1130	..	1014.7	1001.3	..	23.4	15.7	9.1	11.5	41	..	1.0	..	14.2	0	7	20	2	0	1	0	2	3	11	8	1	0	
	1730	..	1011.4	998.1	..	23.1	16.0	9.9	12.2	46	..	1.0	..	10.6	0	3	22	8	3	0	0	0	0	0	2	12	3	0
Jamui	0830	82	1014.6	1004.6	..	16.4	13.9	11.2	13.9	73	..	0.8	..	3.4	0	0	19	0	0	7	3	0	0	2	7	9	0	
	1730	..	1010.9	1001.3	..	23.0	16.9	12.2	14.3	52	..	0.7	..	5.4	0	0	24	0	0	0	0	0	0	0	6	18	4	0
Bhagalpur	0530	49	1012.6	1006.9	..	14.3	12.2	10.5	12.4	78	..	0.5	..	8.9	0	2	23	0	1	1	0	9	10	4	0	3	0	
	0830	..	1014.8	1009.1	..	17.4	13.7	10.4	12.9	65	..	0.5	..	7.4	0	1	23	0	1	1	0	4	10	7	1	4	0	
	1130	..	1014.4	1008.8	..	22.0	16.0	11.1	13.2	51	..	0.8	..	10.7	0	2	25	2	2	0	2	2	1	9	9	1	0	
	1730	..	1011.2	1005.6	..	21.6	16.7	13.0	14.6	60	..	1.0	..	7.9	0	0	24	1	1	1	0	0	2	12	7	4	0	
	2330	..	1013.4	1007.6	..	17.0	14.1	11.5	13.5	71	..	0.2	..	6.9	0	0	22	0	1	2	1	3	8	7	0	6	0	
Sabour	0830	37	1014.4	1010.2	-0.3	16.8	14.7	12.6	14.9	79	0	0.5	-1.9	4.0	0	0	25	0	1	1	2	1	8	12	0	3	0	
	1730	..	1010.9	1006.5	..	21.9	17.7	14.7	16.9	66	..	0.8	..	3.6	0	0	20	1	0	0	0	0	0	0	8	11	8	0
Uttar Pradesh (East) Gonda	0830	110	1014.3	1001.3	..	14.6	12.5	9.9	12.5	75	0	1.3	-0.9	4.3	0	0	23	0	0	6	0	0	0	0	4	13	5	0
	1730	..	1011.2	998.6	..	21.3	15.4	11.2	12.7	52	..	1.8	..	5.7	0	0	15	0	0	2	0	0	0	0	8	5	13	0
Nautanwa	0830	99	1014.2	1002.5	..	13.7	12.1	10.4	12.4	82	..	1.1	..	3.3	0	0	18	1	0	5	5	1	1	3	2	10	0	
	1730	..	1010.9	999.4	..	21.7	15.3	9.6	12.2	48	..	1.2	..	4.6	0	0	20	0	0	1	2	1	5	9	2	8	0	
Gorakhpur	0830	77	1014.2	1005.0	-0.7	16.6	13.0	9.4	12.1	65	-6	1.2	-0.3	2.9	0	0	24	2	0	2	0	0	1	19	0	4	0	
	1730	..	1011.3	1001.9	..	22.4	15.3	8.7	11.2	45	..	1.1	..	2.2	0	0	21	0	1	1	0	2	2	15	0	7	0	
Gorakhpur (P.B.O.)	0230	78	1011.9	1002.6	..	14.1	11.9	9.7	11.9	76	..	0.4	..	5.6	0	0	21	2	0	1	0	1	5	11	1	7	0	
	0530	..	1011.4	1002.2	..	12.9	11.1	9.4	11.9	81	..	0.5	..	5.0	0	0	23	0	3	1	0	1	4	11	3	5	0	
	1120	..	1013.7	1004.7	..	22.1	15.4	9.6	12.3	46	..	0.8	..	10.3	0	1	27	0	4	0	2	2	8	8	4	0	0	
	2330	..	1012.8	1003.6	..	15.8	12.9	10.3	12.6	71	..	0.4	..	6.4	0	0	26	2	2	1	1	1	5	11	3	2	0	
Azamgarh	0830	78	1014.0	1004.4	..	14.6	12.2	10.9	12.0	78	..	1.0	..	..	0	0	28	0	0	2	0	0	1	25	0	0	0
	1730	..	1010.7	1002.1	..	21.4	16.9	13.5	16.1	63	..	0.9	..	..	0	0	6	0	0	1	0	0	0	5	0	22	0
Ballia	0830	64	1015.0	1007.5	..	14.0	11.8	9.6	11.9	76	..	0.6	..	3.0	0	0	24	1	2	1	2	0	12	4	2	4	0	
	1730	..	1013.2	1005.8	..	23.4	16.7	10.7	13.6	50	..	0.6	..	6.7	0	1	25	0	2	5	0	1	1	6	11	2	0	
Varanasi (Banaras)	0830	76	1014.1	1005.4	-1.0	16.7	13.4	10.3	12.6	67	-2	1.0	-0.9	8.1	0	0	27	0	1	3	1	4	12	5	1	1	0	
	1730	..	1011.0	1002.4	..	23.5	16.8	11.3	13.6	48	..	0.7	..	9.0	0	0	26	1	2	2	1	0	8	9	3	2	0	
Varanasi (Banaras) (Babatur Aerodrome)	0530	85	1013.8	1003.6	..	11.5	10.5	9.5	11.9	88	..	1.0	..	5.8	0	0	23	1	0	1	2	2	14	3	0	5	0	
	0830	..	1015.9	1005.8	..	15.6	12.4	10.9	12.0	75	..	1.1	..	9.9	0	1	26	0	0	1	4	0	13	8	1	1	0	
	1130	..	1015.5	1005.7	..	22.3	16.0	10.8	12.8	50	..	0.8	..	14.6	0	4	24	0	0	1	4	1	6	12	4	0	0	
	1730	..	1012.4	1002.5	..	23.0	16.5	11.1	13.5	50	..	0.9	..	10.7	0	3	23	1	2	1	1	0	1	15	5	2	0	
	2330	..	1014.6	1004.4	..	14.1	12.4	10.5	12.9	78	..	0.7	..	5.2	0	0	22	1	2	3	1	0	5	7	3	6	0	
Allahabad (Bamrauli)	0230	98	1013.0	1001.3	..	13.3	11.4	9.4	11.9	78	..	0.5	..	2.6	0	0	18	0	0	5	0	4	0	7	2	10	0	
	0530	..	1012.9	1001.2	..	12.1	10.6	8.9	11.4	82	..	0.6	..	3.0	0	0	17	0	0	4	1	1	6	5	0	11	0	
	0830	..	1014.9	1003.4	-0.5	15.6	12.5	9.1	12.0	69	+3	1.4	-0.8	5.1	0	0	23	0	0	5	1	2	4	10	1	5	0	
	1130	..	1014.9	1003.6	..	22.7	15.3	8.0	11.3	43	..	1.2	..	9.1	0	0	28	1	1	4	0	1	3	13	5	0	0	
	1730	..	1011.5	1000.3	..	22.5	15.5	9.4	12.0	45	..	1.3	..	6.4	0	0	22	1	0	2	0	0	0	12	7	6	0	
Sultanpur	2330	..	1013.7	1002.1	..	15.4	12.6	9.9	12.5	71	..	0.5	..	3.1	0	0	17	1	0	4	1	1	3	5	2	11	0	
	0830	..	..	..	..	15.8	12.3	8.9	11.6	64	..	1.4	..	4.3	0	0	23	0	1	1	1	0	7	8	5	5	0
	1730	..	..	..	..	22.4	15.6	9.4	11.8	47	..	1.3	..	5.9													

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometre, cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mb.	Relative humidity %	Cloud amount (Oktas)			Mean wind speed, km. per hour	Wind speed (km. p. h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point			Departure from normal	Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Uttar Pradesh (East)																											
<i>Contd.</i>																											
Kanpur (Aerodrome)	0530	126	1012.9	997.8	..	11.5	10.0	8.5	10.9	83	..	1.4	..	..	0	0	22	2	1	3	1	1	0	11	3	6	0
	0830	"	1014.5	999.7	..	14.4	11.8	9.4	12.0	73	..	1.5	..	..	0	0	23	2	2	2	1	0	0	12	4	5	0
	1130	"	1014.8	1000.3	..	21.2	14.8	9.3	11.6	48	..	1.1	..	..	0	8	19	2	1	1	4	1	0	10	8	1	0
	1730	"	1011.7	997.2	..	22.4	15.8	10.3	11.8	48	..	1.3	..	..	0	4	23	2	1	3	0	1	1	13	6	1	0
	2330	"	1013.7	998.8	..	14.9	12.3	9.8	12.5	73	..	0.9	..	..	0	0	19	0	1	4	1	0	0	11	2	9	0
Lucknow	0830	113	1015.1	1001.9	0	14.0	11.5	8.9	11.5	73	+5	0.9	-1.1	4.1	0	0	25	2	0	5	0	2	0	16	0	3	0
	1730	"	1011.8	999.0	..	21.8	15.1	9.5	11.7	47	..	1.1	..	5.5	0	0	26	1	0	4	0	0	0	21	0	2	0
Lucknow (Amausi Aerodrome)	0230	128	1012.7	997.4	..	11.9	10.4	8.9	11.9	81	..	1.3	..	5.4	0	0	24	4	1	3	1	0	0	7	8	4	0
	"	"	1012.5	997.1	..	10.7	9.5	8.2	10.9	85	..	1.3	..	5.1	0	0	23	1	1	4	1	0	1	8	7	5	0
	0730	"	1014.4	999.2	-1.1	14.3	11.8	9.4	12.0	74	+6	1.4	-0.6	7.5	0	0	25	0	2	2	2	0	1	11	7	3	0
	1130	"	1014.4	999.7	..	21.1	14.2	7.7	10.6	43	..	1.0	..	14.6	0	5	23	1	0	2	4	0	0	9	12	0	0
	1730	"	1011.4	996.7	..	21.7	14.9	8.9	11.7	47	..	1.6	..	9.6	0	2	23	1	0	3	1	0	0	14	6	3	0
Hardoi	0830	142	1014.2	997.3	..	13.5	11.3	9.3	11.4	76	..	1.2	..	5.2	0	0	24	0	0	4	1	0	0	11	8	4	0
	1730	"	1011.3	994.9	..	21.9	15.3	9.5	11.7	46	..	2.0	..	5.1	0	0	24	1	0	1	1	0	0	15	6	4	0
Lakhimpur Kheri	0830	147	1013.5	996.0	..	12.5	10.9	9.3	11.4	82	..	1.1	..	1.7	0	0	13	0	0	1	0	0	0	12	0	15	0
	1730	"	1010.7	993.8	..	21.3	15.5	10.8	12.7	53	..	2.1	..	1.7	0	0	16	0	0	1	0	0	0	15	0	12	0
Bahraich	0830	124	1014.3	999.5	-0.4	14.6	12.3	9.9	12.5	75	+1	1.9	+0.3	5.1	0	0	26	1	0	6	0	0	4	15	0	2	0
	1730	"	1011.2	997.1	..	21.6	15.6	10.6	12.7	50	..	2.0	..	4.4	0	0	24	1	0	3	0	0	0	19	1	4	0
Uttar Pradesh (West)																											
Orai	0830	141	1016.6	1000.1	..	18.7	14.0	9.9	11.8	58	..	1.6	..	3.1	0	0	25	0	1	0	3	0	0	0	21	3	0
	1730	"	1011.9	995.7	..	23.1	16.1	10.1	12.4	45	..	0.2	..	3.3	0	0	28	2	6	1	1	0	0	4	14	0	0
Jhansi	0830	251	1015.1	985.4	-1.3	13.6	11.6	9.7	12.4	78	+24	1.2	-0.2	1.3	0	0	10	6	0	1	0	1	0	1	1	18	0
	1730	"	1011.1	982.7	..	25.0	18.4	13.3	15.7	49	..	1.3	..	3.0	0	0	24	8	5	3	4	0	0	0	4	4	0
Agra	0830	169	1015.5	995.4	-0.4	14.1	11.0	7.9	10.7	67	+4	0.7	-1.4	1.9	0	0	13	1	0	1	1	2	1	3	4	15	0
	1730	"	1011.9	992.6	..	23.4	14.7	6.6	9.8	34	..	1.3	..	1.4	0	0	12	0	0	1	1	1	1	2	6	16	0
Agra (Aerodrome)	0530	168	1013.5	993.1	..	10.4	9.1	7.7	10.5	84	..	1.2	..	..	0	0	12	0	1	6	0	0	1	3	1	16	0
	0830	"	1015.3	995.0	..	13.5	10.9	8.2	11.0	73	..	1.7	..	..	0	2	20	1	0	3	2	0	3	9	4	6	0
	1130	"	1015.4	995.7	..	21.6	14.5	7.6	11.1	42	..	1.8	..	..	0	8	18	1	1	2	2	3	3	6	8	2	0
	1730	"	1011.7	992.2	..	23.0	14.8	6.9	10.3	37	..	2.3	..	..	0	1	26	4	0	5	1	0	0	5	12	1	0
	2330	"	1014.1	994.1	..	14.4	11.6	8.9	11.5	71	..	1.1	..	..	0	0	13	1	1	3	1	1	0	0	6	15	0
Malupuri	0830	157	1014.1	995.7	-1.1	13.8	11.0	8.7	11.0	71	+5	1.3	-0.9	2.6	0	0	19	0	0	1	1	0	0	14	3	9	0
	1730	"	1009.8	992.2	..	22.7	15.0	8.3	10.8	43	..	1.3	..	2.2	0	0	19	0	0	2	0	0	0	15	2	9	0
Aligarh	0830	187	1014.7	992.3	..	12.2	10.1	8.0	10.5	75	+7	1.6	-0.4	3.0	0	0	24	0	0	6	0	0	0	18	0	4	0
	1730	"	1011.7	990.2	..	21.5	14.3	7.9	10.6	43	..	2.3	..	4.0	0	0	24	6	0	4	1	0	0	12	1	4	0
Bareilly	0830	173	1014.1	993.7	-0.9	13.9	11.7	9.5	11.9	75	0	2.0	-0.3	6.1	0	0	24	0	0	3	3	0	1	10	7	4	0
	1730	"	1010.8	990.9	..	20.8	14.8	8.6	11.2	47	..	2.4	..	4.0	0	0	18	0	0	1	1	0	0	15	1	10	0
Bareilly (P.B.O.)	0230	172	1012.6	992.2	..	13.8	11.3	9.6	11.4	78	..	1.0	..	6.5	0	0	25	0	5	1	1	0	0	13	5	3	0
	0530	"	1011.9	991.8	..	11.9	10.2	8.6	11.4	81	..	1.7	..	7.4	0	0	27	0	1	5	0	0	0	12	9	1	0
	1130	"	1014.3	994.6	..	19.2	13.7	9.4	11.4	54	..	2.0	..	11.6	0	2	26	0	0	5	1	0	0	14	8	0	0
	2330	"	1013.3	994.1	..	15.2	12.4	10.3	12.0	72	..	0.6	..	6.6	0	0	26	1	1	3	2	0	1	17	1	2	0
Meerut	0830	222	1015.5	989.3	0	14.5	11.6	8.1	11.0	65	-5	1.5	-0.8	4.1	0	0	19	0	0	7	0	0	1	11	0	9	0
	1730	"	1012.2	981.3	..	20.5	14.5	8.8	11.5	49	..	2.0	..	2.3	0	0	22	0	1	0	4	0	0	0	17	6	0
Roorkee	0830	274	1014.7	982.2	-0.8	11.4	10.4	9.2	11.4	87	+8	3.5	+0.9	1.0	0	0	9	0	0	0	3	0	0	0	6	19	0
	1730	"	1011.4	979.9	..	19.6	14.0	8.5	11.4	51	..	3.8	..	2.0	0	0	19	0	0	0	5	0	0	0	14	9	0
Dehra Dun	0530	682	1013.6	934.4	..	9.4	8.0	6.5	9.8	83	..	2.5	..	4.3	0	0	21	11	6	0	1	1	0	1	1	7	0
	0830	"	1014.7	935.9	-0.9	11.9	9.3	6.7	10.2	72	-1	2.3	-1.0	1.2	0	0	11	3	4	0	0	0	0	2	2	17	0
	1130	"	1013.8	936.7	..	17.1	12.1	7.6	10.6	55	..	3.3	..	5.6	0	0	28	2	3	2	5	3	5	4	4	0	0
	1730	"	1010.5	934.0	..	17.7	12.9	8.8	11.6	57	..	3.7	..	2.7	0	0	23	2	0	0	2	3	3	9	4	5	0
	2330	"	1014.6	935.9	..	11.4	9.9	8.5	11.5	83	..	2.2	..	4.4	0	0	23	8	12	0	0	0	0	1	2	5	0
Punjab (India) (Including Delhi)																											
New Delhi	0230	216	1013.8	989.1	..	12.5	9.8	6.8	9.9	69	..	1.7	..	8.6	0	1	23	4	1	1	3	0	0	2	13	4	0
	0530	"	1013.4	987.6	..	11.2	9.1	6.7	9.6	74	..	2.0	..	7.5	0												

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 ŚAKA)

Division and station	Hour of observation I.S.T.	Height of barometer corrected above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mba.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Panjab (India) (Including Delhi)—Contd.																												
	New Delhi (Palam Aerodrome)	0230	233	1013.9	986.3	..	11.9	10.0	8.2	10.6	77	..	1.9	..	..	0	1	17	1	2	2	4	1	2	1	5	10	0
		0530	"	1013.4	985.7	..	10.3	9.0	7.6	10.5	82	..	1.5	..	..	0	1	18	0	3	3	3	4	2	2	2	9	0
		0830	"	1015.1	987.4	..	11.7	9.7	7.8	10.4	76	..	2.7	..	..	0	3	23	1	1	3	3	3	7	6	2	2	0
		1130	"	1015.3	988.3	..	19.5	13.9	8.8	11.4	50	..	2.0	..	..	0	15	13	1	0	1	6	1	2	10	7	0	0
Hisar,																												
		1430	"	1012.5	985.8	..	22.2	14.8	8.3	10.7	42	..	2.6	..	..	0	16	11	1	0	0	4	2	1	11	8	1	0
		1730	"	1012.3	985.2	..	21.1	14.7	8.8	11.6	47	..	3.1	..	..	0	11	17	2	0	4	2	0	0	7	13	0	0
		2030	"	1013.6	986.3	..	16.0	12.6	9.8	11.8	67	..	1.8	..	..	0	1	23	3	2	3	2	0	0	8	6	4	0
		2330	"	1014.3	986.8	..	14.0	11.5	9.1	11.6	72	..	1.8	..	..	0	3	18	3	1	5	2	0	1	2	7	7	0
Karnal																												
		0530	221	1014.3	987.8	..	9.1	7.9	6.3	9.7	83	..	1.4	..	5.0 (p)	0	0	11	0	0	2	1	1	1	3	3	4	0
		0830	"	1015.4	988.9	-0.6	9.6	8.3	6.7	10.1	83	+18	2.5	+0.3	0.5 (p)	0	0	13	1	0	1	2	0	5	3	1	2	0
		1130	"	1015.3	989.8	..	20.2	13.2	5.7	9.5	41	..	2.1	..	0.5 (p)	0	1	11	3	1	1	0	2	0	2	3	3	0
		1730	"	1012.1	986.7	..	20.9	13.2	5.0	8.8	36	..	2.7	..	0.7 (p)	0	1	14	4	0	1	2	0	0	2	6	0	0
Patiala																												
		0830	249	1014.4	984.8	..	11.3	9.8	7.8	10.9	81	..	2.3	..	..	0	0	12	0	2	0	1	0	0	4	5	16	0
Ambala																												
		0830	272	1014.5	982.2	-0.9	11.3	9.5	7.6	10.5	76	+3	1.5	-1.4	1.5	0	0	9	0	0	0	4	0	2	0	3	19	0
Ambala (Aerodrome)																												
		0830	278	1013.3	980.6	..	12.6	10.4	8.4	11.0	76	..	2.1	..	10.7	0	2	25	3	0	2	6	0	0	2	11	2	0
		0530	"	1012.6	979.7	..	11.4	9.6	7.8	10.3	80	..	1.7	..	10.0	0	1	25	2	3	0	8	0	0	2	13	1	0
		1130	"	1014.5	982.3	..	18.3	13.2	8.9	10.8	56	..	3.3	..	14.6	0	6	21	3	1	0	7	0	0	3	13	1	0
		2330	"	1013.8	981.1	..	13.7	11.1	8.8	11.3	73	..	2.1	..	11.4	0	2	24	3	0	1	5	0	0	5	12	2	0
Chandigarh																												
		0530	273	1013.1	980.4	..	9.4	8.5	7.5	10.1	89	..	1.6	..	..	0	3	18	0	0	4	1	0	0	11	7	3	0
		0830	"	1014.3	981.6	..	11.0	9.5	8.0	10.9	82	..	3.4	..	..	0	5	20	0	0	6	1	0	0	11	8	1	0
		1130	"	1014.5	982.7	..	18.2	13.1	8.3	11.3	54	..	3.3	..	..	0	11	16	0	0	5	2	1	0	11	7	1	0
		1730	"	1011.8	979.5	..	19.2	13.5	7.7	11.1	50	..	3.2	..	..	0	10	17	1	0	3	2	0	0	14	7	1	0
Ludhiana																												
		0830	247	1015.0	985.6	-0.8	11.3	9.5	7.8	10.5	79	+3	1.6	-1.0	3.7	0	0	26	0	4	0	4	1	0	0	1	15	6	0
Ferozepur																												
		0830	206	1014.2	990.7	..	9.9	8.8	7.8	10.5	86	..	2.3	..	1.2	0	0	11	1	2	1	3	0	0	0	15	7	0
Amritsar																												
		0530	234	1013.6	985.6	..	8.4	7.7	7.0	10.1	91	..	1.9	..	9.3	0	2	23	3	1	5	1	1	1	5	4	7	0
		0830	"	1015.2	987.1	..	9.7	8.6	7.3	10.3	87	..	3.4	..	8.2	0	4	17	4	1	4	1	1	1	2	10	1	0
		1130	"	1015.6	988.2	..	16.5	13.0	9.0	11.9	62	..	3.3	..	8.0	0	4	23	6	3	3	1	1	1	7	10	2	0
		1730	"	1012.2	985.0	..	18.3	13.0	7.6	10.8	51	..	2.8	..	12.3	0	3	23	3	0	2	4	0	0	0	0	10	0
Pathankot																												
		0830	344	1015.3	974.6	..	10.5	8.8	7.2	10.1	77	..	4.1	..	2.5	0	0	18	0	4	10	4	0	0	4	9	3	6	0
Pathankot (Aerodrome)																												
		0830	312	1015.0	978.1	..	11.1	9.6	8.1	10.5	82	..	3.9	..	4.7 (e)	0	0	18	1	5	2	3	3	2	0	2	8	0
		1130	"	1015.2	979.0	..	16.9	12.8	8.9	11.1	60	..	4.1	..	5.3 (e)	0	0	23	0	4	3	1	3	8	3	1	3	0
Adampur (Aerodrome)																												
		0530	238	1013.0	984.3	..	7.8	7.4	7.0	9.7	95	..	2.6	..	..	0	1	16	1	1	2	2	2	1	0	10	9	0
		0830	"	1013.7	985.3	..	9.6	8.8	8.0	10.5	91	..	4.0	..	..	0	1	18	1	1	2	2	2	1	0	20	0	0
		1130	"	1014.1	986.2	..	17.1	13.0	9.1	11.7	60	..	3.6	..	..	0	5	23	0	0	2	4	0	0	0	22	0	0
		1730	"	1011.3	983.7	..	17.8	13.3	9.2	11.7	58	..	3.5	..	..	0	2	26	0	0	2	4	0	0	0	14	10	0
Himachal Pradesh Bilepur																												
		0830	493	1016.2	957.9	..	8.8	8.1	7.5	10.2	92	..	7.0	..	1.5	0	1	4	0	1	1	1	2	0	0	0	23	0
Mandi																												
		1780	"	1011.2	955.2	..	19.0	12.6	6.8	9.9	47	..	4.6	..	4.1	0	0	27	5	2	0	3	4	3	3	7	1	0
Jammu and Kashmir Srinagar																												
		0830	761	1015.8	927.6	..	7.1	6.8	6.8	9.8	95	..	5.6	..	1.0	0	0	8	1	1	0	0	2	1	3	0	20	0
Srinagar																												
		1730	"	1010.6	925.3	..	16.4	11.3	6.5	10.1	53																	

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p. h.)			No. of observations												
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction												
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable 1			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Jammu and Kashmir																														
<i>—Contd.</i>																														
Srinagar—Contd.	1730	1587	1505.7	841.7	..	2.2	0.6	-1.6	5.3	76	..	5.0	..	2.7	0	0	20	0	1	0	8	4	1	6	0	8	0			
	2330	"	1516.3	842.7	..	-0.7	-1.1	-1.6	5.6	93	..	4.6	..	3.4	0	1	16	1	0	0	11	0	1	2	2	11	0			
Srinagar (Aerodrome)	0530	1115	1508.8	834.0	..	-3.4	-3.8	-4.4	4.4	93	..	6.3	..	..	0	0	16	0	2	4	3	2	1	2	2	12	0		
	0830	"	1519.2	835.1	..	-2.5	-3.0	-4.0	4.4	90	..	7.2	..	..	0	0	23	0	0	2	5	5	7	1	3	5	0		
	1130	"	1527.0	836.1	..	0.7	-0.5	-2.0	5.2	82	..	6.8	..	..	0	1	21	2	1	5	5	2	1	1	5	6	0		
	1730	"	1504.3	833.8	..	1.1	0	-2.0	5.4	81	..	4.8	..	..	0	0	16	1	0	2	4	4	1	1	3	12	0		
Gulmarg	0830	2655																												
	1730	"																												
Lach	0530	3514	3059.1	661.1	..	10.0	-11.9	-18.9	1.3	50	..	4.9	..	2.8	0	0	15	0	14	0	0	1	0	0	0	13	0			
	0830	"	3068.0	661.3	-2.3	-9.2	-11.3	-15.7	1.2	49	-6	4.5	-0.8	0.3	0	0	3	0	3	0	0	0	0	0	0	0	25	0		
	1730	"	3045.7	660.2	..	-2.2	-4.8	-10.1	0.4	59	..	3.9	..	5.5	0	0	25	1	0	0	1	7	14	1	1	3	0			
Skardu (R)	0830	2288																												
(R)	1730	"																												
Gilgit (R)	0830	1491																												
(R)	1730	"																												
Misgar (R)	0830	3106																												
(R)	1730	"																												
Jammu	0830	..																												
Jammu (Aerodrome)	0530	292	1013.9	978.9	..	10.1	8.4	6.5	9.6	79	..	2.7	..	..	0	3	9	0	8	2	2	0	0	0	0	16	0		
	0830	"	1015.0	980.2	..	11.1	9.1	6.9	10.1	76	..	3.8	..	..	0	4	16	1	12	4	3	0	0	0	0	8	0		
	1130	"	1015.4	981.2	..	16.2	11.9	7.7	10.6	58	..	4.1	..	..	0	4	17	2	4	3	5	0	1	4	2	7	0		
	1730	"	1012.3	978.3	..	17.6	12.6	7.1	10.7	53	..	3.8	..	..	0	1	24	0	0	2	2	0	1	14	6	3	0		
Rajasthan (West)																														
Sri Ganganagar																														
	0530	177	1013.3	992.0	..	9.5	7.9	6.1	9.2	79	..	2.3	..	1.9	0	0	9	2	1	2	3	1	0	0	0	19	0			
	0830	"	1014.7	993.3	..	9.7	7.9	5.6	9.4	76	-4	3.5	+0.2	1.9	0	0	10	1	0	3	4	0	2	0	0	18	0			
	1130	"	1015.2	994.5	..	18.6	12.3	5.5	9.1	45	..	2.6	..	3.9	0	0	23	5	1	2	3	2	4	0	6	5	0			
	1730	"	1011.6	991.2	..	20.7	13.5	6.1	9.5	41	..	2.6	..	2.7	0	0	20	8	0	1	0	2	2	1	6	8	0			
	2330	"	1014.1	993.2	..	13.1	10.2	7.2	10.3	68	..	1.7	..	1.4	0	0	9	2	1	3	1	0	1	0	1	19	0			
Churu	0830	291	1015.7	981.0	..	10.6	7.8	4.2	8.3	67	..	1.7	..	4.0	0	0	18	0	0	2	4	3	3	4	2	10	0			
	1730	"	1011.4	978.3	..	23.5	14.7	4.8	9.3	33	..	2.9	..	11.4	0	4	24	17	1	0	0	1	3	3	3	0	0			
Bikaner	0830	224	1015.2	988.6	-0.5	11.7	7.7	2.5	7.5	55	-4	0.9	-1.3	4.0	0	0	20	1	0	2	7	1	4	1	4	8	0			
	1730	"	1011.1	985.8	..	24.0	13.9	2.4	7.8	28	..	1.2	..	6.7	0	1	25	5	1	0	0	0	4	5	11	2	0			
Bikaner (P.B.O.)	0530	224	1013.5	986.8	..	9.8	7.2	4.1	8.2	68	..	1.4	..	3.1	0	0	10	1	2	0	0	4	0	2	1	18	0			
	1130	"	1014.6	989.2	..	21.5	14.1	5.8	9.8	39	..	2.3	..	8.2	0	0	27	5	4	2	5	6	1	4	0	1	0			
	2330	"	1013.9	987.5	..	14.9	10.4	5.2	9.2	55	..	1.3	..	5.1	0	0	17	9	2	1	2	1	0	0	2	11	0			
Jaisalmer	0830	242	1014.8	986.9	..	13.8	10.2	6.3	9.6	62	..	1.2	..	12.3	0	6	16	4	5	0	2	6	5	0	0	6	0			
	1730	"	1010.4	983.4	..	25.3	13.7	1.3	6.2	23	..	1.7	..	15.7	0	6	21	6	5	0	0	6	6	2	2	1	0			
Phalodi	0830	234	1015.7	987.8	..	13.1	9.6	4.7	9.2	58	..	1.5	..	6.9	0	3	9	2	0	0	5	2	3	0	0	16	0			
	1730	"	1012.1	985.5	..	24.9	15.7	7.0	10.6	34	..	2.3	..	12.6	0	3	24	9	1	0	1	0	4	8	4	1	0			
Nagaur	0830	298	1015.6	980.7	..	15.7	10.3	3.0	8.3	47	..	1.5	..	5.6	0	1	23	6	4	3	2	3	1	2	3	4	0			
	1730	"	1011.1	977.5	..	24.8	13.9	3.0	8.2	26	..	1.7	..	9.8	0	5	23	5	2	1	0	5	6	5	4	0	0			
Jodhpur	0230	224	1013.4	987.1	..	15.8	9.9	2.1	7.8	41	..	0.9	..	8.0	0	0	27	8	11	2	1	1	2	2	0	1	0			
	0530	"	1013.2	986.7	..	13.5	8.7	2.1	7.6	48	..	0.8	..	8.1	0	0	27	3	14	1	1	1	4	3	0	1	0			
	0830	"	1015.2	988.7	+0.8	14.4	9.0	1.9	7.0	45	-2	1.3	-0.9	7.6	0	0	23	3	14	0	0	0	2	4	0	5	0			
	1130	"	1015.4	989.7	..	22.2	13.2	2.8	8.2	31	..	1.1	..	11.3	0	3	23	1	7	6	3	1	5	2	1	2	0			
	1730	"	1010.8	985.5	..	26.7	14.8	1.7	7.1	21	..	1.5	..	10.6	0	4	23	2	4	0	1	2	6	6	6	1	0			
	2330	"	1013.7	987.7	..	19.1	11.7	3.0	7.7	37	..	0.8	..	7.9	0	1	23	7	9	2	0	1	3	2	0	4	0			
Barmer	0530	194	1012.5	989.7	..	15.6	11.2	6.1	9.7	55	..	0.8	..	6.7	0	0	22	2	0	0	1	0	1	6	12	6	0			
	0830	"	1014.6	991.8	+0.1	15.2	11.2	6.6	10.1	59	+1	1.1	-1.0	6.0	0	0	23	3	2	0	1	0	4	3	10	5	0			
	1130	"	1015.0	992.7	..	23.7	15.0	6.4	10.1	35	..	1.1	..	10.9	0	2	25	1	7	4	4	2	5	2	2	1	0			
	1730	"	1010.5	988.6	..	27.0	16.4	6.5	10.5	29	..	1.3	..	9.1	0	1	27	4	3	0	1	2	5	8	5	0	0			
	2330	"	1013.3	990.8	..	20.2	13.2	5.9	9.5</																					

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer (corrected) above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in f.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Rajasthan (East)—contd.																												
Sikar	0830	433	1015.7	964.7	..	13.5	9.2	3.9	8.1	55	..	1.3	..	2.4	0	0	22	0	1	12	6	1	1	1	0	6	0	
	1730	"	1010.5	962.3	..	23.7	12.6	1.6	5.5	25	..	2.7	..	2.5	0	0	19	2	0	0	3	0	2	4	8	9	0	
Jaipur	0830	436	1015.5	964.6	-1.0	13.3	8.8	2.9	7.9	51	+3	1.2	-0.9	5.0	0	0	19	5	3	7	2	1	1	0	0	9	0	
	1130	"	1014.6	965.5	..	22.1	12.1	-0.4	5.8	23	..	1.5	..	9.4	0	0	28	6	0	2	4	4	5	3	4	0	0	
	1730	"	1010.8	962.0	..	24.3	13.0	-1.5	5.9	19	..	2.4	..	10.0	0	0	28	2	1	0	2	2	0	9	12	0	0	
Jaipur (Sanganer Aerodrome)	0230	390	1013.6	967.7	..	12.7	8.8	3.7	8.3	56	..	0.6	..	..	0	0	26	11	6	7	0	0	0	1	1	2	0	
	0530	"	1013.5	967.5	..	11.5	8.5	4.8	9.4	64	..	0.9	..	..	0	0	22	7	4	9	0	0	0	1	1	6	0	
	0830	"	1014.9	969.2	..	13.8	10.0	5.5	9.2	58	..	1.0	..	..	0	0	23	3	2	12	1	0	0	1	4	5	0	
	1130	"	1014.7	970.2	..	21.2	13.4	5.3	9.1	36	..	1.0	..	..	0	1	27	2	1	1	7	3	4	5	5	0	0	
	1730	"	1010.5	966.6	..	23.9	14.2	3.6	8.3	28	..	2.1	..	..	0	2	26	1	0	1	1	2	2	9	12	0	0	
	2330	"	1013.8	968.4	..	15.0	10.2	4.5	8.7	50	..	0.8	..	..	0	1	27	9	6	7	0	3	0	0	3	0	0	
Dholpur	0830	176	1014.6	993.8	..	14.2	11.2	8.2	10.7	68	..	1.0	..	5.1	0	0	21	1	0	2	4	1	0	6	7	7	0	
	1730	"	1010.8	990.7	..	23.4	15.0	7.1	10.3	36	..	2.1	..	5.6	0	0	23	10	2	2	2	0	0	1	6	5	0	
Ajmer	0830	486	1015.7	959.1	-0.9	12.9	8.9	4.4	8.6	58	+6	1.5	-0.2	4.2	0	0	18	2	3	2	1	1	3	3	3	10	0	
	1730	"	1010.9	956.5	..	23.7	12.3	-0.7	6.0	21	..	2.0	..	11.8	0	1	27	3	1	0	2	2	4	11	5	0	0	
Kotah	0530	257	1013.7	983.4	..	13.7	10.1	6.0	9.4	61	..	0.1	..	1.0	0	0	7	0	1	0	1	0	1	4	0	21	0	
	0830	"	1015.3	985.2	-0.8	15.4	10.9	6.0	9.7	54	+6	0.5	-1.3	0.5	0	0	4	0	0	0	0	0	1	3	0	24	0	
	1130	"	1015.0	985.8	..	24.4	15.4	5.9	10.5	31	..	0.4	..	1.9	0	0	16	3	1	2	0	1	1	1	7	12	0	
	1730	"	1011.3	982.4	..	26.7	15.7	5.3	8.7	26	..	0.6	..	4.9	0	0	19	1	1	0	0	1	2	2	12	9	0	
	2330	"	1013.8	984.1	..	18.3	12.4	6.3	9.8	46	..	0	..	0.4	0	0	4	0	0	0	0	0	2	2	0	24	0	
Chambal	0830	351	1015.5	974.6	..	14.9	10.6	5.5	9.2	54	..	0.8	..	2.0	0	0	13	2	2	0	0	2	2	1	4	15	0	
	1730	"	1010.1	971.0	..	26.9	15.6	4.1	8.8	24	..	1.2	..	14.0	0	3	23	4	2	0	1	2	2	6	9	2	0	
Jhalawar	0830	321	1015.2	977.8	-0.1	15.2	10.4	5.3	8.7	50	-2	0.5	-1.0	1.2	0	0	10	0	4	2	0	1	1	1	1	18	0	
	1730	"	1010.0	974.3	..	27.9	17.2	7.5	11.1	30	..	0.7	..	4.3	0	0	27	4	4	1	1	1	5	4	7	1	0	
Udaipur	0230	582	1014.5	947.0	..	12.2	10.1	8.0	10.7	75	..	0.1	..	0	0	0	0	0	0	0	0	0	0	0	0	28	0	
	0530	"	1014.4	946.6	..	10.5	8.8	7.3	10.2	81	..	0.4	..	0.5	0	0	3	2	0	0	0	0	1	1	1	25	0	
	0830	"	1015.7	948.7	-0.9	14.6	11.2	8.0	10.8	65	+15	0.9	-0.5	0.9	0	0	4	0	1	0	0	0	1	1	1	24	0	
	1130	"	1014.0	949.1	..	23.8	15.8	9.5	12.1	42	..	0.5	..	4.5	0	0	24	2	1	7	1	1	4	4	3	4	1	
	1730	"	1009.9	945.6	..	25.7	17.3	11.3	13.6	42	..	1.0	..	5.0	0	0	23	0	0	4	2	1	5	9	2	5	0	
	2330	"	1014.7	947.8	..	14.8	11.8	9.3	12.2	70	..	0.3	..	1.2	0	0	7	1	0	0	0	0	2	3	1	21	0	
Erinpura (Jawai Dam)	0830	295	1015.1	980.5	..	14.8	10.7	6.1	9.5	59	..	1.4	..	5.5	0	0	21	1	2	0	3	11	4	0	0	7	0	
	1730	"	1010.6	977.2	..	27.0	16.4	6.8	10.1	27	..	0.8	..	5.7	0	1	21	5	2	0	0	1	9	3	2	6	0	
Madhya Pradesh (West)																												
Gwalior (P.R.O.)	0230	207	1013.3	988.8	..	12.2	10.3	8.4	11.3	77	..	1.3	..	2.3	0	0	13	0	0	0	10	1	1	0	1	15	0	
	0530	"	1013.3	988.3	..	11.1	9.5	7.7	10.6	81	..	1.1	..	3.1	0	0	19	1	1	0	7	2	3	2	3	9	0	
	0830	"	1015.2	990.8	-0.8	14.8	11.6	8.4	11.3	67	+11	1.0	-0.7	4.0	0	0	22	0	0	0	7	5	2	1	7	6	0	
	1130	"	1015.1	991.6	..	21.5	13.7	5.5	9.5	37	..	1.4	..	9.0	0	0	28	11	2	0	5	1	2	3	4	0	0	
	1730	"	1011.2	988.4	..	23.6	14.5	5.2	9.5	33	..	1.6	..	7.7	0	0	28	11	5	2	3	0	0	1	6	0	0	
	2330	"	1014.2	989.4	..	13.9	11.4	9.1	11.5	73	..	1.0	..	2.0	0	0	12	0	0	1	6	4	1	0	0	16	0	
Sheopur Kalan	0830	235	1015.5	987.8	..	14.8	10.7	6.1	9.5	57	..	1.0	..	1.6	0	0	11	1	3	2	3	2	0	0	0	17	0	
	1730	"	1010.4	984.0	..	26.3	15.3	4.8	8.4	24	..	1.3	..	4.6	0	0	24	3	2	0	0	1	3	6	8	4	1	
Guna	0530	478	1013.7	957.7	..	10.9	8.1	5.2	8.8	68	..	0.6	..	0.9	0	0	5	1	0	1	1	1	0	1	0	23	0	
	0830	"	1015.2	959.8	-0.6	15.7	10.9	6.0	9.7	54	-3	0.9	-0.3	1.8	0	0	14	4	0	1	1	7	0	1	0	14	0	
	1130	"	1014.1	960.4	..	23.2	13.7	4.7	8.9	32	..	0.7	..	5.7	0	0	24	2	2	6	1	2	3	4	4	4	0	
	1730	"	1009.9	956.9	..	25.5	14.2	2.9	8.3	24	..	0.9	..	7.7	0	0	26	2	0	2	1	1	0	6	4	2	0	
	2330	"	1014.0	958.8	..	15.0	10.3	5.6	9.1	55	..	0.4	..	2.3	0	0	14	4	1	1	2	2	2	1	1	14	0	
Rajgarh	0830	382	1015.0	970.5	..	14.5	9.2	3.2	7.0	45	..	0.5	..	2.5	0	0	13	0	0	0	5	2	1	1	4	15	0	
	1730	"	1009.5	967.1	..	27.9	14.8	-0.1	6.3	16	..	0.9	..	8.8	0	1	26	6	2	2	1	1	3	7	5	1	0	
Neemuch	0830	496	1016.0	958.9	..	15.8	9.2	1.1	6.8	38	..	0.9	-0.5	3.7	0	0	21	1	9	4	0	1	3	2	1	7	0	
	1730	"	1010.6	955.7	..	26.7	13.3	-1.8	5.7	16	..	1.1	..	9.0	0	1	26	4										

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres*	Mean pressure in millibars			Mean temperature °C			Vapour pressure in mb	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in ft. of nearest standard isobaric level	At station level	Departure normal (m)	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Madhya Pradesh West—contd.																											
Indore—Contd.	1730	567	1009.3	947.1	..	27.6	15.0	3.2	8.0	22	..	0.7	..	15.5	0	5	22	4	5	0	0	0	6	7	5	1	0
	2330	"	1013.8	949.3	..	17.7	11.0	3.9	8.3	41	..	0.3	..	10.3	0	3	22	0	6	0	2	0	6	6	5	3	0
Bhopal (Bairagarh)	0230	523	1013.0	953.0	..	15.3	9.9	4.0	8.4	48	..	0.1	..	7.7	0	0	25	4	10	1	1	1	2	3	3	0	
	0530	"	1013.3	953.0	..	13.7	9.1	4.2	8.2	53	..	0.3	..	5.6	0	0	22	1	5	5	2	1	4	2	2	6	0
	0830	"	1015.0	955.2	-0.3	17.0	10.9	4.6	8.6	45	-3	0.4	-1.1	5.7	0	0	23	2	5	3	6	3	1	2	1	5	0
	1130	"	1013.7	955.5	..	24.9	13.9	3.2	7.8	26	..	0.4	..	12.8	0	4	24	2	4	4	2	4	0	7	5	0	0
	1730	"	1009.6	952.0	..	27.1	14.3	1.4	7.1	20	..	0.6	..	14.5	0	6	22	6	3	0	0	1	2	7	9	0	0
Khandwa	2330	"	1013.5	953.9	..	17.9	11.1	4.0	8.3	41	..	0.1	..	7.6	0	0	23	5	6	3	1	1	1	3	3	5	0
	0830	318	1014.9	978.1	-0.2	17.9	11.6	4.8	8.9	42	-3	0.4	-0.7	2.5	0	0	23	3	3	1	3	1	3	6	3	5	0
Hoshangabad	1730	"	1009.5	974.4	..	30.3	17.2	5.0	9.5	21	..	0.7	..	5.7	0	0	28	1	4	0	0	1	3	4	15	0	0
	0830	302	1015.2	980.2	-0.3	17.8	12.7	7.6	10.5	52	+1	0.5	-0.9	3.5	0	0	18	1	1	8	2	3	2	1	0	10	0
Betul	1730	"	1009.7	976.2	..	29.6	17.3	6.7	9.8	25	..	0.5	..	2.3	0	0	16	0	0	5	6	0	2	2	1	12	0
	0830	653	1015.0	941.1	..	17.8	12.2	6.9	10.2	50	..	0.3	..	7.3	0	0	27	6	3	1	1	2	3	5	6	1	0
Chhindwara	1730	"	1009.0	937.7	..	27.4	15.7	5.1	9.4	25	..	0.5	..	7.3	0	0	27	6	3	1	1	2	3	5	6	1	0
	0830	685	1015.2	937.1	..	16.6	11.8	7.2	10.5	55	..	0.7	..	2.8	0	0	14	2	3	0	2	2	1	0	4	14	0
Seoni	1730	"	1009.0	934.2	..	26.6	14.8	3.4	8.5	24	..	0.8	..	9.6	0	0	27	3	0	0	0	3	4	6	11	1	0
	0830	619	1014.7	944.9	-0.5	18.0 ^(h)	13.7	8.8	12.8	55	+2	0.7	-0.9	2.7	0	0	15	1	5	1	2	3	2	0	1	13	0
Sagar	1730	"	1008.9	941.3	..	26.7	16.9	8.9	12.1	35	..	0.9	..	3.3	0	0	26	4	6	0	0	4	4	2	6	2	0
	0830	551	1014.5	951.7	-0.6	17.7	12.2	7.0	10.1	51	+5	0.6	-1.0	6.9	0	1	23	1	4	6	3	0	4	4	2	4	0
Nowgong	1730	"	1009.7	948.8	..	25.5	14.7	5.5	8.4	28	..	0.9	..	6.0	0	0	28	0	2	2	1	0	3	14	6	0	0
	0830	229	1015.6	988.5	-0.4	13.0	11.0	9.1	11.7	78	+12	0.9	-1.2	2.2	0	0	19	1	3	2	2	2	7	1	1	9	0
1730	"	1011.3	985.4	..	25.1	15.7	7.1	10.8	33	..	1.1	..	4.4	0	0	26	2	6	1	0	0	1	0	16	2	0	
Madhya Pradesh (East)																											
Sutna	0530	317	1013.3	975.9	..	11.9	10.2	8.4	11.1	80	..	0.5	..	0.5	0	0	4	0	0	2	0	0	0	2	0	24	0
	0830	"	1015.2	978.2	-0.4	15.6	12.3	8.6	11.7	65	+6	1.0	-0.9	1.0	0	0	8	1	0	1	2	0	0	2	2	20	0
	1130	"	1014.4	978.3	..	22.8	14.6	6.6	9.6	37	..	0.9	..	4.8	0	0	25	4	1	0	3	1	6	6	4	3	0
	1730	"	1010.9	975.1	..	24.5	15.3	6.9	10.1	34	..	1.0	..	3.0	0	0	23	0	1	0	2	0	2	4	14	5	0
Sidhi	2330	"	1013.8	976.8	..	15.7	12.2	8.9	11.5	65	..	0.5	..	0.8	0	0	4	0	0	3	1	0	0	0	0	24	0
	0830	..	..	..	..	15.0	12.2	9.4	12.0	71	..	0.8	..	1.4	0	0	12	2	1	1	0	1	3	3	1	16	0
Umaria	1730	..	..	..	..	23.9	15.3 ^(h)	7.5	10.4	39	..	0.8	..	2.9	0	0	21	3	0	2	0	0	1	9	6	7	0
	0830	459	1014.8	962.0	..	16.7	12.8	9.4	11.9	64	+2	0.8	-1.3	4.7	0	0	15	0	4	1	3	0	2	1	4	13	0
Jabalpur	1730	"	1010.0	959.0	..	25.5	16.1	9.1	11.4	37	..	0.7	..	1.5	0	0	8	0	1	0	1	1	0	0	5	20	0
	0530	393	1013.3	957.3	..	12.3	10.5	8.6	11.3	78	..	0.5	..	2.6	0	0	19	2	1	2	8	4	2	0	0	9	0
	0830	"	1015.1	969.7	-0.1	16.5	12.2	8.0	10.8	58	-2	0.4	-1.2	3.6	0	0	22	1	2	1	8	6	2	2	0	6	0
	1130	"	1013.7	969.7	..	25.4	15.8	6.7	10.1	32	..	0.5	..	5.9	0	0	26	4	7	1	4	2	3	3	2	2	0
Mandla	1730	"	1009.7	966.1	..	27.2	16.7	7.3	11.3	30	..	0.7	..	5.7	0	0	26	6	8	1	1	1	2	5	2	2	0
	2330	"	1013.5	968.1	..	16.5	13.1	10.2	12.3	67	..	0.4	..	3.0	0	0	14	1	2	4	5	2	0	0	0	14	0
	0830	443	1015.8	964.4	..	13.9	12.1	10.4	12.6	80	..	0.8	..	0	0	0	0	0	0	0	0	0	0	0	0	28	0
	1730	"	1009.9	960.7	..	25.9	16.4	7.7	10.9	34	..	0.8	..	1.9	0	0	11	5	0	0	1	1	0	0	4	17	0
Pendra	0530	625	1013.2	941.7	..	14.0	10.4	6.8	10.0	64	..	0.4	..	4.8	0	0	24	7	0	1	1	0	4	6	5	4	0
	0830	"	1014.7	943.9	-0.8	17.2	12.2	7.4	10.6	55	-4	0.5	-1.4	4.4	0	0	23	9	0	0	3	1	3	3	4	5	0
	1130	"	1013.5	944.1	..	23.4	14.5	6.6	10.1	35	..	0.7	..	8.2	0	0	26	11	3	0	1	4	2	3	2	2	0
	1730	"	1009.8	940.9	..	24.3	14.7	6.1	9.7	33	..	1.0	..	8.2	0	1	24	10	1	0	0	3	5	3	3	3	0
Ambikapur	2330	"	1013.8	942.9	..	16.9	12.0	7.4	10.3	55	..	0.5	..	4.9	0	0	25	4	0	0	0	2	5	7	7	3	0
	0830	611	1015.5	945.7	..	15.8	12.3	9.2	11.7	67	..	0.7	..	3.3	0	0	16	2	2	0	0	2	7	3	0	12	0
	1730	"	1009.9	942.5	..	24.6	15.1	7.0	10.3	34	..	0.9	..	9.1	0	0	28	12	1	0	0	0	0	7	8	0	0
	0830	245	1014.9	986.5	..	18.4	14.4	10.5	13.3	61	..	0.4	..	3.3	0	0	21	14	0	5	0	0	0	0	2	7	0
Champa	1730	"	1010.1	982.8	..	28.3	17.4	7.6	11.1	29	..	1.0	..	5.5	0	1	19	3	0	0	0	0	1	12	4	8	0
	0830	220	1014.5	989.1	..	20.2	15.0	10.5	12.6	55	..	0.1	..	3.9	0	0	23	0	15	4	0	1	2	0	1	5	0
Raigarh	1730	"	1009.6	984.9	..	28.4	17.6	8.2	11.3	30	..	0.6	..	6.3	0	0	26	2	4	0	1	0	1	4	14	2	0
	0530	298	1012.3	977.8	..	17.2	13.7	10.5	12.8	66	..	0.3	..	3.4	0	0	17	7	4	0	0	2	1	2	1	11	0
Raipur																											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Madhya Pradesh (East)—Contd.	Jagdalpur (P.B.C.)	0530	553	1013.1	949.9	..	16.2	14.7	13.7	15.8	83	..	1.0	..	1.3	0	0	8	1	0	0	2	2	0	1	2	20	0
		0830	"	1014.6	952.2	-0.1	20.1	16.4	13.9	16.1	69	-2	1.0	-0.6	2.0	0	0	12	1	2	1	2	2	2	1	1	16	0
		1130	"	1012.5	951.9	..	27.8	18.2	11.6	13.8	38	..	0.9	..	5.9	0	1	22	3	4	2	1	1	5	6	1	5	0
		1730	"	1008.9	948.6	..	28.7	18.4	11.1	13.7	35	..	2.1	..	6.9	0	0	26	4	1	0	0	2	5	9	5	2	0
		2330	"	1013.3	951.0	..	20.2	16.5	13.9	16.1	68	..	0.7	..	0.8	0	0	5	0	1	1	1	2	0	0	0	23	0
Gujrat	Deesa	0830	136	1015.0	998.9	-0.2	15.2	10.6	4.7	9.1	53	..	1.2	..	3.8	0	0	21	1	16	0	3	1	0	0	0	7	0
		1730	"	1010.8	995.5	..	28.8	15.9	2.0	7.8	19	..	1.0	..	8.8	0	1	25	2	2	0	0	0	3	9	10	2	0
Radhanpur		0830	30	1014.7	1011.2	..	15.3	12.2	8.5	11.7	66	..	0.6	..	3.9	0	0	20	5	1	4	0	0	1	7	2	8	0
		1730	"	1011.5	1008.1	..	28.8	18.6	10.3	13.0	34	..	0.5	..	11.9	0	2	26	9	1	2	0	0	1	13	2	0	0
Idar		0830	219	1014.6	989.2	..	19.1	13.8	8.6	11.5	51	..	1.0	..	5.0	0	0	16	5	7	0	1	0	0	2	1	12	0
		1730	"	1010.5	985.9	..	28.6	18.4	9.8	12.9	32	..	0.5	..	6.1	0	0	27	0	0	3	0	1	1	22	0	1	0
Ahmedabad		0230	55	1012.6	1006.2	..	16.9	12.2	7.3	10.5	53	..	0.2	..	6.6	0	0	24	4	4	1	0	0	1	8	6	4	0
		0530	"	1012.3	1005.9	..	15.0	11.8	8.4	11.3	65	..	0	..	6.3	0	0	20	1	5	2	0	0	1	6	5	8	0
		0830	"	1014.5	1008.1	-0.5	17.0	13.1	9.2	12.0	62	+6	0.6	-0.6	7.8	0	0	23	0	5	5	0	0	0	5	8	5	0
		1130	"	1015.1	1008.8	..	26.0	17.2	9.6	12.5	39	..	0.3	..	13.7	0	5	23	2	2	6	4	0	0	5	9	0	0
		1730	"	1010.8	1004.6	..	30.1	17.5	6.3	9.9	24	..	0.4	..	13.6	0	6	22	2	4	2	0	0	1	9	10	0	0
		2330	"	1013.2	1006.8	..	19.5	13.4	7.6	10.5	47	..	0.1	..	5.7	0	0	21	4	4	0	0	1	2	2	8	7	0
		0830	333	1014.7	976.2	..	17.3	12.4	7.1	10.5	52	-4	0.3	-1.2	7.7	0	2	22	1	1	5	2	6	3	4	2	4	0
Dohad		1730	"	1010.6	973.7	..	28.9	16.3	4.0	8.3	21	..	0.1	..	13.2	0	4	24	1	1	1	0	0	17	6	2	0	0
	Baroda	0530	34	1012.5	1008.4	..	14.8	12.4	9.9	12.5	74	..	0	..	1.3	0	0	9	1	6	0	0	0	0	1	1	19	0
Baroda (Aerodrome)		0830	"	1014.8	1010.7	..	17.0	13.3	9.7	12.3	63	+5	0.4	-0.7	0.9	0	0	7	0	6	0	0	1	0	0	0	21	0
		1130	"	1015.3	1011.2	..	27.8	18.0	9.9	12.7	35	..	0.4	..	3.3	0	0	19	1	8	1	0	0	1	3	5	9	0
		1730	"	1010.8	1006.9	..	31.4	18.7	8.4	11.2	25	..	0.4	..	4.5	0	0	24	2	5	0	0	0	1	5	11	4	0
		2330	"	1013.3	1009.2	..	19.3	14.6	10.4	12.7	57	..	0	..	2.3	0	0	16	1	9	0	0	0	2	2	2	12	0
		0830	38	1014.8	1010.3	..	17.1	12.5	7.8	10.9	55	..	0.6	..	3.7	0	0	20	2	2	3	7	2	2	0	2	8	0
		1130	"	1015.1	1010.8	..	27.6	17.8	9.7	12.5	35	..	0.5	..	5.3	0	1	23	7	3	1	2	0	1	5	5	4	0
		1730	"	1010.7	1006.5	..	30.8	17.9	6.7	10.0	23	..	0.6	..	7.6	0	0	27	3	3	0	0	0	1	13	7	1	0
Broach		0830	17	1014.1	1012.0	..	16.9	13.4	10.0	12.5	66	..	0.3	..	2.8	0	0	20	0	3	0	1	1	12	5	4	2	0
		1730	"	1010.2	1008.2	..	32.6	18.5	7.4	9.9	23	..	0.2	..	8.6	0	0	28	2	3	0	0	0	12	6	5	0	0
Surat		0530	12	1012.0	1010.6	..	17.9	15.0	12.3	14.7	72	..	0.1	..	5.3	0	0	23	8	5	4	4	1	0	0	1	5	0
		0830	"	1014.5	1013.1	+0.1	18.5	15.2	12.3	14.6	69	+9	0.3	-0.7	6.6	0	0	26	10	6	4	3	1	0	1	1	2	0
		1130	"	1014.8	1013.4	..	28.2	19.1	12.3	14.6	40	..	0.7	..	8.1	0	0	27	11	6	3	1	0	1	1	4	1	0
		1730	"	1010.7	1009.3	..	30.6	19.8	12.1	14.3	33	..	0.1	..	9.4	0	0	26	1	0	0	0	0	5	4	16	2	0
Saurashtra and Kutch	*2330	"	1012.8	1011.4	..	21.8	17.8	14.7	17.1	66	..	0	..	5.4	0	0	25	8	1	0	1	1	3	8	3	2	0	
Naliya		0830	21	1015.0	1012.5	..	14.3	12.5	9.9	12.1	78	..	2.5	..	4.1	0	1	17	1	7	5	1	2	0	2	0	10	0
		1730	"	1012.0	1009.5	..	25.7	17.7	12.0	13.7	43	..	0.7	..	15.7	0	3	25	2	3	0	0	0	8	14	1	0	0
Bhuj (Aerodrome)		0230	80	1013.4	1004.0	..	16.5	13.1	9.2	12.3	65	..	0	..	2.4	0	0	13	0	0	0	0	2	4	6	1	15	0
		0530	"	1013.1	1003.6	..	15.4	12.8	9.8	12.7	73	..	0.6	..	2.2	0	0	12	1	1	0	0	1	2	4	3	16	0
		0830	"	1014.8	1005.4	-0.1	16.2	13.6	10.6	13.5	73	+25	0.6	-0.6	2.7	0	0	17	1	0	0	0	1	12	3	0	11	0
		1130	"	1015.6	1006.3	..	24.4	16.2	8.1	11.7	39	..	0.7	..	12.2	0	3	24	5	8	1	0	0	2	4	7	1	0
		1730	"	1011.4	1002.3	..	28.7	16.4	7.7	8.8	22	..	0.4	..	15.4	0	8	19	5	6	0	0	1	3	7	5	1	0
Kandla		2330	"	1014.2	1004.8	..	19.4	14.5	9.6	12.5	56	..	0	..	6.4	0	2	17	0	1	0	0	1	5	9	3	9	0
		0830	14	1015.6	1013.9	..	17.9	14.7	11.7	14.1	68	..	1.4	..	7.2	0	0	25	7	0	0	1	2	3	6	6	3	0
		1730	"	1012.4	1010.7	..	25.7	18.4	12.3	15.4	47	..	0.6	..	20.4	0	11	16	6	1	0	1	4	12	3	0	1	0
Mandvi		0830	9	1014.8	1013.7	..	17.4	15.2	13.1	15.5	78	..	0.6	..	15.9	0	2	26	3	10	2	0	0	3	1	9	0	0
		1730	"	1012.1	1011.1	..	23.6	19.7	16.5	19.7	68	..	0.3	..	21.6	0	12	16	0	1	0	1	0	5	20	0	0	1
Dwarka		0830	11	1015.0	1013.7	-0.3	19.7	17.6	15.7	18.5	77	+6	2.3	+0.5	11.5	0	2	22	7	5	0	0	0	1	4	7	4	0
		1730	"	1012.5	1011.2	..	24.3	19.2	15.6	18.1	61	..	0.7	..	16.6	0	2	26	5	0	2	0	0	0	7	14	0	0
Porbander		0830	7	1014.8	1014.0	..	18.8	16.3	14.5	16.5	79	..	1.8	..	8.9	0	0	28	14	6	4	1	0	0	0	3	0	

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard inobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Saurashtra and Kutch																											
<i>Contd.</i>																											
Rajkot (Aerodrome)	0830	134	1015.1	999.5	+0.2	16.4	13.4	9.6	12.9	68	+11	0.6	-1.0	6.0	0	0	21	1	5	1	1	1	4	3	5	7	0
	1130	"	1015.3	1000.1	..	25.7	16.3	6.8	10.9	34	..	0	..	17.4	0	8	19	5	9	1	0	0	1	4	7	1	0
	1730	"	1011.1	996.1	..	29.4	16.3	2.0	7.9	19	..	0	..	21.3	0	15	13	4	4	1	0	0	1	4	14	0	0
Surendranagar	0830	74	1014.7	1006.0	..	17.4	13.6	9.1	12.4	63	..	0.7	..	6.3	0	1	24	0	2	0	0	0	2	4	17	3	0
	1730	"	1010.8	1502.5	..	30.3	17.8	6.2	10.3	24	..	0.2	..	9.0	0	2	25	2	4	1	0	0	2	3	15	1	0
Bhavnagar	0830	17	1015.0	1013.0	+0.1	17.6	13.3	8.8	11.9	58	+12	0.2	-1.1	3.0	0	0	27	0	0	0	0	0	14	8	5	1	0
	1730	"	1010.9	1009.1	..	30.2	20.7	14.2	16.8	39	..	0.5	..	3.4	0	0	27	0	3	13	5	3	1	0	2	1	0
Bhavnagar (Aerodrome)	0830	11	1014.6	1013.3	..	18.6	13.4	7.8	11.2	52	..	0.5	..	12.9	0	0	25	1	0	0	0	1	1	6	16	3	0
	1130	"	1015.3	1014.1	..	25.6	16.9	9.4	12.3	38	..	0.5	..	15.5	0	3	25	8	12	2	0	1	0	2	3	0	0
	1730	"	1010.8	1009.6	..	29.1	17.5	7.2	10.7	27	..	0.5	..	18.7	0	8	20	1	6	9	9	3	0	0	0	0	0
Mahuva	0830	16	1014.1	1012.3	..	18.7	15.3	12.0	14.8	67	..	0.3	..	3.8	0	0	22	3	5	0	1	0	0	0	13	4	0
	1730	"	1011.2	1009.4	..	27.6	21.7	18.0	21.1	58	..	0.1	..	15.2	0	3	22	0	2	5	6	7	5	0	0	1	J
Keshod	0830	51	1015.5	1009.4	..	18.9	15.1	12.4	14.0	67	..	0.3	..	8.0	0	1	22	3	7	10	2	0	0	0	1	5	J
	1130	"	1015.7	1009.8	..	26.1	19.0	14.9	16.2	52	..	0.3	..	16.2	0	4	24	9	8	2	0	1	1	3	4	0	0
Veraval	0230	8	1012.9	1012.0	..	17.8	14.8	11.4	14.4	71	..	0.1	..	14.0	0	4	24	21	4	0	0	0	0	0	3	0	0
	0530	"	1012.5	1011.6	..	16.7	13.7	10.1	13.2	70	..	0	..	13.1	0	2	26	19	8	0	0	0	0	0	1	0	0
	0830	"	1014.5	1013.6	-0.2	18.1	14.8	11.3	14.2	69	+13	0.6	-0.5	10.9	0	2	24	15	10	1	0	0	0	0	0	2	0
	1130	"	1015.3	1014.4	..	26.9	19.7	14.0	17.1	50	..	0.8	..	14.2	0	5	21	7	3	0	0	0	3	7	6	2	0
	1730	"	1011.7	1010.8	..	25.4	21.9	19.6	23.4	73	..	0.5	..	23.4	0	21	7	1	1	0	0	0	1	15	10	0	0
	2330	"	1013.9	1013.0	..	20.0	17.6	15.4	18.1	77	..	0.1	..	11.6	0	2	25	16	3	0	0	0	0	1	7	1	0
Konkan																											
Dahanu	0830	5	1013.3	1012.8	..	19.7	16.4	13.4	13.9	70	-3	0.8	-0.2	6.5	0	0	28	3	1	15	7	2	0	0	0	0	0
	1730	"	1010.8	1010.3	..	25.8	21.8	19.2	22.9	68	..	0.1	..	20.7	0	14	14	21	1	0	0	0	0	2	4	0	0
Bombay (Colaba)	0830	11	1013.7	1012.4	-0.4	21.6	18.9	17.1	19.6	77	+6	0.4	-0.6	5.4	0	0	27	12	9	3	3	0	0	0	0	1	0
	1130	"	1014.2	1013.0	..	27.7	21.5	17.7	20.6	56	..	0.2	..	6.7	0	0	27	5	4	2	4	1	0	1	10	1	0
	1730	"	1010.7	1009.5	..	26.8	21.9	19.2	22.3	64	..	0	..	14.9	0	4	24	6	0	0	0	0	1	0	21	0	0
Bombay (Santacruz Aerodrome)	0230	15	1012.0	1010.3	..	19.7	17.5	15.8	18.3	80	..	0.1	..	3.8	0	0	14	7	2	3	0	0	0	0	2	14	0
	0530	"	1011.7	1010.0	..	18.7	16.7	15.0	17.5	81	..	0.2	..	4.3	0	0	18	5	5	8	0	0	0	0	0	10	0
	0830	"	1013.8	1012.1	-0.3	21.3	17.4	14.3	16.7	67	+5	0.4	-0.6	5.5	0	1	18	1	3	13	2	0	0	0	0	9	0
	1130	"	1014.2	1012.5	..	28.8	19.9	13.5	16.0	42	..	0.6	..	11.7	0	2	25	7	3	4	0	1	1	3	8	1	0
	1730	"	1010.7	1009.0	..	27.6	20.6	16.3	18.6	51	..	0.1	..	20.2	0	15	13	10	0	0	0	0	0	1	17	0	0
	2330	"	1013.0	1011.3	..	21.4	18.3	15.9	19.2	73	..	0	..	5.2	0	0	22	11	2	4	0	0	0	0	5	6	0
Alibag	0830	7	1013.6	1012.8	0	21.5	18.6	16.5	19.0	75	+8	0.5	-0.5	3.4	0	0	26	7	12	4	2	0	0	0	1	2	0
Harnai	0830	20	1012.9	1010.6	+0.4	23.7	19.5	16.7	19.3	66	+3	1.2	..	7.6	0	1	26	6	5	4	3	2	1	3	3	1	0
	1730	"	1010.2	1007.9	..	26.4	23.3	21.8	26.2	77	..	0.6	..	26.7	0	20	8	5	0	0	0	0	0	5	18	0	0
Ratnagiri	0830	35	1013.2	1009.2	0	21.9	19.3	17.7	20.3	78	..	1.0	..	..	0	0	28	0	0	27	0	0	0	0	1	0	0
	1730	"	1010.1	1006.1	..	28.2	23.2	20.7	24.3	64	..	1.3	..	..	0	10	18	1	0	0	0	0	1	8	18	0	0
Deogad	0830	36	1013.1	1009.0	+0.1	23.6	21.2	19.9	23.2	81	+11	1.1	0	8.0	0	1	27	2	14	8	3	0	0	0	1	0	0
	1730	"	1009.9	1005.9	..	28.1	24.4	22.4	27.7	71	..	0.5	..	22.7	0	15	13	0	0	0	0	0	1	6	21	0	0
Vengurla	0230	9	1011.1	1010.1	..	20.9	19.6	18.9	21.7	88	..	0.1	..	0.4	0	0	3	2	0	0	0	0	0	0	1	25	0
	0530	"	1010.9	1009.9	..	19.8	18.7	18.3	20.6	89	..	0	..	2.0	0	0	11	9	0	1	0	0	0	0	1	17	0
	0830	"	1013.2	1012.2	..	21.9	19.9	18.7	21.7	83	..	0.5	..	2.3	0	0	12	5	0	3	2	0	0	0	2	16	0
	1130	"	1013.8	1012.8	..	29.7	22.8	18.8	22.1	53	..	0.5	..	8.3	0	0	26	5	0	0	0	8	9	4	0	2	0
	1730	"	1010.2	1009.2	..	29.2	23.5	20.5	24.3	60	..	0.4	..	8.1	0	0	28	0	0	0	0	1	7	1	8	0	0
	2330	"	1012.3	1011.3	..	22.7	20.8	19.8	23.0	84	..	0	..	1.5	0	0	8	4	2	0	0	0	1	1	20	0	0
Maharashtra																											
Nandurbar	0830	206	1014.9	991.3	..	27.7	14.8	6.9	10.5	39	..	0	..	7.2	0	0	27	0	2	6	0	1	10	6	2	1	0
	1730	"	1009.8	986.9	..	31.4	18.1	6.0	9.9	22	..	0.1	..	8.3	0	0	28	1	3	2	0	0	11	9	2	0	0
Jalgaon	0830	201	1014.9	991.4	..	17.7	11.7	4.9	8.9	44	..	0.1	..	8.4	0	0	26	0	2	8	3	1	7	3	2	2	0
	1730	"	1009.2	987.0	..	32.8	17.6	2.6	7.7	16	..	0.1	..	14.5	0	8	20	4	1	1	0	0	2	11	9	0	0
Malegaon	0830	437	1015.2	964.8	-0.2	16.9	11.2	4.5	8.7	44	-1	0.1	-1.0	1.8	0	0	14	0	0	0	0	1	1	8	4	14	

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in ft. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
			19	20	21	22	23	24				25	26		27	28											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Maharashtra—coind. Aurangabad (Chikalhana Aerodrome).	0230	579	1012.8	946.7	..	16.5	11.7	7.3	10.3	55	..	0	..	4.6	0	0	13	2	0	0	1	0	1	4	5	15	0
	0530	"	1013.2	946.6	..	14.1	10.2	6.3	9.6	60	..	0	..	3.5	0	0	12	1	0	0	0	0	1	7	3	16	0
	0830	"	1014.2	948.8	..	20.1	14.6	10.3	12.5	54	..	0.3	..	2.6	0	0	9	0	0	0	2	0	0	4	3	19	0
	1130	"	1012.8	949.2	..	28.2	18.8	12.5	14.8	39	..	0.1	..	11.3	0	2	25	3	1	6	6	2	2	3	4	1	0
	1730	"	1007.7	945.1	..	31.6	20.0	12.5	14.9	32	..	0.3	..	6.8	0	1	24	1	0	0	0	0	7	3	14	3	0
Ahmednagar	0830	657	1014.8	940.7	0	18.4	12.8	7.7	10.8	51	+11	0	-0.8	2.1	0	0	19	0	1	0	0	0	0	0	18	9	0
	1730	"	1007.2	936.9	..	32.4	18.7	9.3	11.6	25	..	0.1	..	3.8	0	0	26	0	7	0	0	0	5	0	14	2	0
Parbhani	0830	423	1014.8	966.7	..	20.2	13.0	5.3	9.2	39	..	0.3	..	6.9	0	0	26	2	4	1	2	0	3	8	6	2	0
	1730	"	1008.4	962.4	..	32.9	17.7	3.1	7.8	16	..	0.5	..	5.9	0	0	26	6	3	0	0	1	4	5	7	2	0
Poona	0530	559	1013.0	948.9	..	15.1	12.3	10.0	12.3	72	..	0	..	1.0	0	0	8	0	0	0	2	0	4	0	2	20	0
	0830	"	1014.9	951.3	0	17.9	13.5	10.1	12.3	61	0	0	-0.8	1.3	0	0	11	0	0	0	7	1	2	1	0	17	0
	1130	"	1012.6	951.3	..	28.5	16.7	7.4	10.5	27	..	0	..	3.1	0	0	17	7	0	1	2	0	1	2	4	11	0
	1730	"	1007.7	947.3	..	32.0	17.9	7.1	10.2	22	..	0	..	4.5	0	0	20	3	1	0	0	1	2	3	10	8	0
	2330	"	1013.1	950.2	..	20.8	15.7	11.9	14.1	58	..	0	..	0.2	0	0	2	0	0	0	0	0	1	0	1	26	0
Poona (Lohagau Aerodrome).	0230	593	1012.7	945.5	..	17.6	12.9	8.6	11.5	57	..	0.1	..	3.7	0	0	17	0	0	0	0	0	0	8	9	11	0
	0530	"	1013.1	945.3	..	16.0	11.9	8.1	11.0	61	..	0.1	..	2.8	0	0	14	0	0	1	0	1	1	5	6	14	0
	0830	"	1014.7	947.5	..	18.8	13.0	7.8	10.8	51	..	0.6	..	2.5	0	0	15	0	1	1	2	1	0	7	3	13	0
	1130	"	1012.7	947.7	..	28.4	15.9	4.9	9.0	24	..	0.4	..	9.5	0	1	25	1	0	11	6	1	0	4	3	2	0
	1730	"	1007.9	943.8	..	31.4	16.5	2.9	7.9	18	..	0.3	..	19.4	0	11	16	1	1	2	1	0	1	12	9	1	0
Bramati	0830	551	1015.0	952.4	..	18.0	12.5	7.5	10.5	53	..	0.2	..	5.0	0	0	23	5	1	0	0	1	1	4	11	5	0
	1730	"	1006.9	947.8	..	33.4	18.0	6.0	9.4	19	..	0.2	..	11.1	0	3	24	2	2	1	2	2	5	3	10	1	0
Jair	0830	521	1014.0	955.1	..	20.0	12.6	5.4	9.3	41	..	0.1	..	1.6	0	0	11	1	2	1	1	0	0	2	4	17	0
	1730	"	1006.7	950.7	..	33.5	17.8	5.1	8.9	17	..	0.6	..	5.6	0	2	19	0	2	2	0	0	1	9	7	7	0
Shimapur	0530	479	1012.0	957.7	..	19.7	12.2	4.9	8.9	39	..	0.1	..	7.0	0	0	26	6	3	2	8	1	2	1	3	2	0
	0830	"	1013.9	960.0	0	22.7	13.7	5.5	9.1	34	-6	0.2	-0.7	6.0	0	0	28	0	14	0	2	0	9	0	3	0	0
	1130	"	1012.5	960.0	..	30.5	17.4	6.9	10.4	24	..	0.4	..	8.6	0	1	19	3	5	2	4	4	2	0	0	8	0
	1730	"	1007.1	955.5	..	34.0	17.7	4.1	8.3	17	..	1.1	..	4.7	0	0	27	0	7	0	5	0	8	0	7	1	0
	2330	"	1011.6	958.2	..	24.6	13.9	3.7	8.1	27	..	0.4	..	7.9	0	0	28	4	6	0	7	1	5	2	3	0	0
Miraaj	0230	554	1014.3	951.5	-0.3	18.7	14.0	10.1	12.5	59	+1	0.2	-0.7	..	0	0	8	0	0	0	0	0	1	6	1	20	0
	1730	"	1006.3	947.1	..	34.1	21.3	13.2	15.9	30	..	1.0	..	..	0	0	20	0	0	0	0	0	5	13	2	8	0
Kolhapur	0530	570	1012.1	947.4	..	17.6	13.8	10.6	13.0	65	..	0	..	5.8	0	0	24	0	2	4	0	2	10	4	2	4	0
	0830	"	1014.1	949.9	..	20.4	14.7	10.0	12.5	54	..	0.2	..	3.0	0	0	15	0	4	2	0	0	4	3	2	13	0
	1130	"	1012.1	950.0	..	29.8	17.6	8.1	11.2	27	..	0.1	..	9.2	0	1	26	1	15	3	4	0	2	1	1	1	0
1730	"	1007.1	945.8	..	32.5	18.5	8.0	11.1	23	..	0.2	..	14.2	0	2	25	1	3	0	1	0	6	13	3	1	0	
Vidarbha Buldhana	0830	650	1013.6	940.8	..	20.6	14.0	8.5	11.2	47	..	0.3	..	4.1	0	0	21	0	5	1	5	0	1	0	10	7	0
	1730	"	1008.1	937.9	..	29.7	18.2	10.3	12.5	32	..	0.3	..	2.9	0	0	22	0	6	0	1	0	2	0	13	6	0
Akola	0830	282	1014.3	981.8	-0.2	19.1	12.2	4.6	8.7	39	-5	0.1	-1.3	2.5	0	0	20	0	1	4	3	2	2	6	2	8	0
	1130	"	1013.5	981.9	..	28.6	16.6	5.2	9.2	24	..	0.3	..	5.5	0	0	23	1	5	3	2	0	1	6	5	5	0
	1730	"	1008.3	977.4	..	32.9	17.8	3.2	8.2	17	..	0.6	..	5.4	0	0	25	2	3	0	0	0	1	10	9	3	0
Akola (Aerodrome)	0530	309	1011.9	976.2	..	17.0	10.9	3.9	8.1	43	..	0	..	4.7	0	0	26	1	1	5	1	1	0	14	4	6	0
	2330	"	1011.6	976.5	..	22.7	14.0	5.0	9.0	33	..	0	..	3.7	0	0	22	0	3	3	1	1	1	9	4	0	0
Amravati	0830	370	1014.3	972.3	0	21.3	14.5	8.0	11.7	44	+1	0.4	-1.0	5.7	0	0	25	1	10	2	2	0	6	4	0	0	0
	1730	"	1008.1	967.6	..	31.4	18.7	8.2	11.2	24	..	0.7	..	9.2	0	0	28	1	4	0	1	0	5	2	15	0	0
Yeotmal	0830	451	1013.9	962.9	..	22.3	14.4	7.1	10.1	39	..	0.1	..	5.4	0	0	27	2	4	8	2	3	1	3	4	1	0
	1730	"	1008.4	959.2	..	30.9	17.7	5.6	9.2	22	..	0.2	..	6.3	0	0	24	2	2	0	0	2	2	9	7	4	0
Nagpur	0230	310	1011.9	976.0	..	17.6	13.0	8.5	11.3	57	..	0.1	..	3.5	0	0	19	9	5	1	0	0	1	0	3	9	0
	0530	"	1012.5	976.3	..	15.8	12.1	8.5	11.2	63	..	0.1	..	4.4	0	0	22	9	1	1	1	0	0	2	8	6	0
	0830	"	1014.7	978.9	-0.3	19.3	14.7	9.4	12.1	54	+2	0.4	-1.4	2.8	0	0	17	5	4	0	0	0	0	0	0	0	0
	1130	"	1013.7	979.0	..	28.0	18.0	9.6	12.6	33	..	0.4	..	8.7	0	1	24	5	3	8	1	2	2	1	3	3	0
	1730	"	1008.8	974.6	..	30.9	18.5	7.9	11.6	25	..	0.5	..	8.5	0	3	20	1	5	0	1	1	4	5	6	5	

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Vidarbha—contd.																											
Chanda . . .	0830	193	1014.3	992.0	-0.3	20.6	16.4	13.0	15.3	63	+6	0.4	-1.0	2.9	0	0	22	5	3	4	2	3	0	1	4	6	0
	1730	"	1009.0	987.5	..	30.5	19.9	12.4	14.7	36	..	1.2	..	5.1	0	0	25	4	7	8	1	1	1	1	2	3	0
Sironcha . . .	0830	123	1014.5	1000.3	..	22.8	19.1	16.8	19.7	70	..	1.1	..	4.1	0	0	24	0	7	5	10	1	0	0	1	4	0
	1730	"	1009.2	995.5	..	32.7	20.8	12.4	14.9	31	..	1.0	..	4.6	0	0	27	1	9	3	9	2	1	0	2	1	0
Coastal Andhra Pradesh																											
Nellore . . .	0530	20	1011.4	1009.1	..	22.6	21.6	21.2	25.2	91	..	1.4	..	1.9	0	0	12	0	0	1	8	2	1	0	0	16	0
	0830	"	1013.9	1011.6	-0.3	25.4	22.6	21.3	25.3	78	-3	1.5	-0.9	2.3	0	0	22	0	0	1	15	4	2	0	0	6	0
	1130	"	1013.7	1011.4	..	31.0	23.2	18.9	21.8	50	..	2.5	..	5.3	0	0	27	1	0	3	21	2	0	0	0	1	0
	1730	"	1010.4	1008.2	..	29.5	23.5	20.3	23.8	59	..	1.6	..	4.6	0	0	28	0	3	6	19	0	0	0	0	0	0
	2330	"	1013.0	1010.7	..	24.6	22.8	21.7	25.9	85	..	0.7	..	3.0	0	0	14	0	1	1	12	0	0	0	0	14	0
Ongole . . .	0830	12	1014.4	1013.1	..	27.6	23.1	20.8	24.7	67	..	2.5	..	5.0	0	0	22	0	0	3	14	5	0	0	0	6	0
	1730	"	1010.2	1008.9	..	28.5	23.5	21.2	25.7	65	..	0.3	..	7.5	0	0	25	0	1	0	23	1	0	0	0	3	0
Rentachintala . . .	0830	106	1013.9	1001.8	..	25.6	21.7	19.3	22.7	70	0	2.0	-0.9	3.7	0	0	20	1	0	3	3	11	1	0	1	8	0
	1730	"	1009.0	997.4	..	33.6	22.1	13.8	15.8	33	..	2.2	..	3.4	0	0	25	4	0	11	3	7	0	0	0	3	0
Gannavaram . . .	0230	24	1011.2	1008.6	..	22.4	21.3	20.7	24.4	90	..	1.0	..	1.0	0	0	11	0	1	5	2	1	0	2	0	17	0
	0530	"	1011.3	1008.7	..	22.1	21.3	20.9	24.7	93	..	2.0	..	3.1	0	0	12	0	1	7	3	1	0	0	0	16	0
	0830	"	1013.9	1011.3	..	25.0	22.9	21.8	26.1	83	..	2.3	..	6.1	0	0	23	1	1	10	7	2	1	0	1	5	0
	1130	"	1013.7	1011.1	..	30.0	23.5	20.1	23.5	56	..	2.8	..	10.8	0	0	25	0	0	3	10	7	4	1	0	3	0
	1730	"	1009.8	1007.3	..	31.0	22.8	18.2	20.9	48	..	2.3	..	14.0	0	3	24	1	0	1	16	9	0	0	0	1	0
Masulipatam . . .	2330	"	1012.7	1010.0	..	23.7	21.9	21.0	24.9	85	..	0.7	..	3.9	0	0	13	0	0	5	3	3	1	1	0	15	0
	0530	3	1012.0	1011.7	..	22.5	21.9	21.6	25.8	95	..	1.8	..	1.9	0	0	8	1	1	0	2	3	1	0	0	20	0
	0830	"	1014.2	1013.9	-0.4	26.2	23.9	22.8	27.7	82	+1	2.4	+0.3	6.5	0	0	24	3	2	5	5	6	1	2	0	4	0
	1130	"	1014.1	1013.8	..	29.2	24.8	22.8	27.7	69	..	2.3	..	11.3	0	0	28	0	0	1	17	9	1	0	0	0	0
	1730	"	1010.9	1010.6	..	27.5	24.3	22.7	27.6	75	..	1.3	..	13.4	0	0	28	0	0	0	12	16	0	0	0	0	0
Nidadavolu . . .	2330	"	1013.0	1012.7	..	24.5	23.3	22.7	27.6	90	..	0.4	..	7.9	0	0	27	0	0	0	8	18	1	0	0	1	0
	0830	12	1014.4	1013.0	..	25.3	22.8	21.6	25.7	80	..	4.5	..	4.4	0	0	24	5	7	5	1	2	1	0	3	4	0
Kakinada . . .	1730	"	1010.3	1008.9	..	29.8	23.3	19.9	23.1	56	..	3.9	..	10.5	0	1	27	0	1	3	5	12	7	0	0	0	0
	0830	8	1015.3	1014.3	+0.5	27.6	24.6	23.2	28.4	77	+2	3.3	+0.7	8.8	0	0	28	0	12	2	7	0	6	0	1	0	0
Visakhapatnam . . .	1730	"	1011.1	1010.1	..	28.5	24.9	23.2	28.4	73	..	1.1	..	10.1	0	0	28	0	2	1	24	0	1	0	0	0	0
	0230	3	1012.2	1011.8	..	23.7	22.5	21.8	26.3	89	..	2.2	..	1.5	0	0	11	0	1	2	0	0	4	2	2	17	0
	0530	"	1012.3	1011.9	..	22.6	21.5	20.9	24.7	91	..	2.0	..	2.1	0	0	13	1	0	2	0	0	0	4	6	15	0
	0830	"	1014.7	1014.3	0	25.5	22.5	20.9	26.2	77	0	1.9	-0.6	1.9	0	0	11	0	0	1	0	0	6	2	2	17	0
	1130	"	1014.2	1013.8	..	29.5	23.5	20.4	24.8	59	..	2.3	..	7.9	0	1	22	0	0	6	4	1	11	1	0	5	0
Calingeapatam . . .	1730	"	1011.3	1010.9	..	27.0	23.5	21.7	26.1	74	..	1.8	..	12.5	0	5	23	0	0	4	8	4	12	0	0	0	0
	2330	"	1013.4	1013.0	..	24.6	23.1	22.3	27.1	86	..	2.8	..	2.1	0	0	12	0	0	2	0	0	7	2	1	16	0
	0830	6	..	..	..	..	..	..	..	..	..	4.1	+2.3	6.3	0	0	28	14	0	0	0	0	0	0	14	0	0
	1730	"	..	..	..	..	..	..	..	..	..	4.3	..	10.0	0	0	28	0	0	0	0	14	14	0	0	0	0
	0830	156	1013.7	995.8	..	23.9	19.0	15.5	18.6	61	..	1.9	..	4.1	0	0	22	6	4	2	5	4	1	0	0	6	0
Ramagundam . . .	1730	"	1008.7	991.5	..	33.2	20.6	11.9	14.2	30	..	1.3	..	4.3	0	0	25	4	4	3	2	5	2	3	2	3	0
	0830	381	1013.7	971.0	+0.1	24.9	17.5	11.7	14.4	46	-8	0.2	-0.3	2.0	0	0	15	0	2	3	4	1	0	5	0	13	0
Nizamabad . . .	1730	"	1008.0	966.5	..	33.1	19.6	9.1	11.0	25	..	1.2	..	1.5	0	0	14	2	2	0	0	3	1	2	4	14	0
	0830	505	1013.2	956.9	..	24.4	18.6	14.8	17.2	58	..	1.2	..	5.8	0	0	27	4	5	4	3	1	5	1	4	1	0
Makbunagar . . .	1730	"	1007.6	953.1	..	32.1	19.2	10.3	12.9	28	..	1.0	..	3.4	0	0	24	1	1	6	1	8	5	1	1	4	0
	0830	545	1011.3	950.2	..	20.9	17.1	14.4	16.4	67	..	1.1	..	7.5	0	2	15	2	0	8	6	1	0	0	0	11	0
Hyderabad (Begumpet Aerodrome) . . .	0530	"	1011.8	950.3	..	19.2	16.5	14.6	16.6	76	..	8.3	..	5.9	0	0	18	2	2	4	7	0	0	0	3	10	0
	0830	"	1014.0	953.1	-0.4	22.8	17.7	14.0	15.5	61	-5	2.6	+0.8	8.0	0	0	24	3	1	2	7	1	2	1	7	4	0
	1130	"	1012.7	953.1	..	29.1	19.0	11.9	13.9	38	..	1.8	..	12.3	0	1	26	4	0	3	8	5	4	2	1	1	0
	1730	"	1008.0	949.1	..	31.3	18.6	9.2	12.1	28	..	1.4	..	9.1	0	0	27	3	3	7	5	5	2	0	2	1	0
	2330	"	1012.2	951.5	..	23.1	17.7	14.2	16.2	58	..	1.0	..	8.3	0	1	22	3	1	8	10	1	0	0	0	5	0
Hakimpet . . .	0530	613	1011.7	943.0	..	20.3	16.9	14.5	16.8	72	..	2.2	..	9.8	0	3	22	1	4	3	10	2	2	0	3	3	0
	0830	"	1013.3	945.1	..	23.0	17.8	14.2	16.6	61	..	1.7	..	9.2	0	1											

TABLE III.—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cylinder above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																												19	20	21	22	23	24	25	26	27	28
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Telangana—Contd.																												
Bhadrachallam	0830	111	1014.3	1001.6	..	24.2	21.7	20.5	24.1	80	..	3.0	..	5.0	0	0	26	0	11	4	8	2	1	0	0	2	0	
	1730	"	1009.4	997.1	..	32.4	22.1	15.9	18.2	40	..	1.3	..	5.0	0	0	27	1	8	6	6	2	1	0	0	1	0	
Khammameth	0830	112	1014.0	1001.2	..	24.4	22.2	20.9	25.0	81	..	1.2	..	5.3	0	0	27	1	0	9	14	2	1	0	0	1	0	
	1730	"	1009.5	997.1	..	32.3	21.9	15.4	17.8	36	..	1.2	..	3.3	0	0	18	1	0	7	4	3	0	3	0	10	0	
Rajaseema																												
Aroyavaram	0830	701	1013.7	935.9	..	21.6	17.8	15.4	17.5	70	..	2.3	..	3.4	0	0	21	0	0	0	6	12	2	1	0	7	0	
	1730	"	1007.9	932.5	..	29.7	17.8	8.6	11.2	29	..	3.2	..	5.5	0	0	27	3	7	9	6	2	0	0	0	1	0	
Cuddapah	0830	130	1013.9	999.2	+0.1	28.0	21.8	18.2	21.0	56	-8	0.6	-0.1	2.6	0	0	11	0	0	11	0	0	0	0	0	17	0	
	1730	"	1008.9	994.5	..	33.5	22.3	15.6	18.0	35	..	0.1	..	9.0	0	0	26	0	2	24	0	0	0	0	0	2	0	
Anantapur	0530	350	1010.7	971.0	..	21.6	17.1	13.5	15.5	62	..	0.9	..	2.1	0	0	9	0	0	4	4	0	1	0	0	19	0	
	0830	"	1012.9	973.5	..	24.2	18.1	13.6	15.6	53	..	0.9	..	3.5	0	0	15	0	0	2	5	3	1	2	2	13	0	
	1130	"	1012.0	973.4	..	30.6	19.6	11.5	13.6	32	..	0.6	..	6.3	0	0	27	3	5	7	9	0	2	1	0	1	0	
	1730	"	1007.1	969.0	..	33.4	20.1	10.1	12.3	25	..	1.3	..	6.1	0	1	20	2	8	8	1	0	0	0	2	7	0	
	2330	"	1010.9	971.9	..	26.7	18.5	12.2	14.2	43	..	0.5	..	11.8	0	2	25	1	1	10	13	1	0	0	1	1	0	
Kurnool	0830	281	1013.5	981.7	-0.1	24.3	19.2	15.7	18.0	60	+1	1.6	+0.5	6.1	0	0	22	1	7	5	6	2	0	1	0	6	0	
	1730	"	1007.5	977.3	..	34.5	21.0	11.8	13.8	26	..	1.7	..	4.7	0	0	23	2	8	4	5	1	0	1	2	5	0	
Madras State																												
Palayamcottai	0830	51	1013.6	1007.8	..	25.9	22.5	20.6	24.4	73	..	4.1	..	7.6	0	0	28	21	0	0	0	0	0	1	6	0	0	
	1730	"	1009.1	1003.4	..	30.9	23.1	18.7	21.7	49	..	3.8	..	13.9	0	2	26	0	10	13	2	1	2	0	0	0	0	
Tuticorin	0830	4	1013.8	1013.4	..	26.2	23.2	21.8	25.9	77	..	4.5	..	12.2	0	1	26	15	6	1	0	0	1	1	3	1	0	
	1730	"	1009.9	1009.5	..	28.3	24.6	22.9	27.8	72	..	2.4	..	20.0	0	10	18	0	6	15	6	1	0	0	0	0	0	
Pamban	0830	11	1013.6	1012.3	+0.2	27.4	23.8	22.2	26.8	73	-6	3.3	+0.7	7.7	0	0	26	2	17	6	1	0	0	0	0	2	0	
	1730	"	1010.2	1008.9	..	28.1	24.3	22.5	28.7	72	..	3.0	..	12.3	0	0	27	4	20	1	1	1	0	0	0	1	0	
Mathurai	0830	133	1013.6	998.4	-0.4	25.0	22.2	20.8	24.5	77	+1	4.3	+1.0	3.0	0	0	28	1	24	0	0	0	0	0	3	0	0	
	1730	"	1008.8	994.1	..	31.8	21.9	16.2	18.3	40	..	5.0	..	3.0	0	0	28	0	22	0	6	0	0	0	0	0	0	
Mathurai (Aerodrome)	0530	131	1012.3	997.0	..	21.7	20.9	20.3	23.8	92	..	3.8	..	2.4	0	0	20	11	7	0	0	0	0	1	1	8	0	
	0830	"	1014.1	999.0	..	25.2	22.2	20.5	24.4	76	..	3.2	..	4.2	0	0	27	13	9	2	1	0	0	0	1	1	1	
	1130	"	1013.4	998.5	..	29.4	22.4	18.2	20.9	52	..	3.6	..	6.0	0	0	28	2	13	9	0	0	0	0	2	0	2	
	1730	"	1009.4	994.6	..	31.5	21.3	14.3	17.0	38	..	3.0	..	8.2	0	0	28	1	2	23	2	0	0	0	0	0	0	
Nagapattinam	0830	9	1014.0	1012.9	+0.2	26.0	23.2	21.7	26.2	78	+1	3.1	-0.6	7.1	0	0	28	6	4	3	2	0	2	1	10	0	0	
	1730	"	1010.6	1009.5	..	27.9	24.0	22.2	26.7	71	..	2.7	..	15.7	0	1	27	3	11	6	7	0	0	0	0	0	0	
Tiruchirapalli	0230	88	1011.8	1001.7	..	23.1	21.6	20.8	24.6	87	..	2.1	..	5.8	0	0	18	0	8	8	1	0	0	0	1	10	0	
	0530	"	1011.9	1001.7	..	22.2	21.0	20.4	24.0	90	..	2.0	..	2.5	0	0	9	6	2	1	0	0	0	0	0	19	0	
	0830	"	1013.9	1003.9	-0.4	25.1	22.4	21.0	24.9	78	-3	2.6	+0.3	5.0	0	0	17	5	9	1	0	0	1	0	1	11	0	
	1130	"	1013.4	1003.5	..	29.7	22.8	19.0	22.0	53	..	3.0	..	9.5	0	1	25	1	1	13	7	1	1	0	2	2	0	
	1730	"	1009.4	999.6	..	32.0	22.5	16.7	19.0	42	..	2.5	..	16.3	0	6	22	0	7	18	3	0	0	0	0	0	0	
	2330	"	1013.2	1003.1	..	24.3	22.1	21.0	24.9	82	..	1.0	..	11.9	0	0	28	0	3	18	6	1	0	0	0	0	0	
Goimbatore	0830	409	1014.2	968.3	+0.3	24.3	20.3	18.1	20.8	72	-6	3.7	+0.7	14.1	0	0	28	0	10	12	3	1	2	0	0	0	0	
	1730	"	1007.9	963.6	..	32.3	19.8	10.5	12.7	28	..	2.5	..	12.3	0	0	28	0	7	13	7	0	1	0	0	0	0	
Goimbatore (Peelamedu Aerodrome)	0530	398	1012.1	966.8	..	20.7	19.4	18.6	21.6	88	..	2.6	..	6.4	0	0	24	3	11	4	1	0	1	1	3	4	0	
	0830	"	1013.8	968.8	..	23.3	21.2	20.0	23.3	83	..	3.4	..	11.1	0	0	27	0	14	8	2	1	1	1	0	1	0	
	1130	"	1012.5	968.1	..	29.1	22.4	18.7	21.7	55	..	3.0	..	15.0	0	3	25	1	10	16	1	0	0	0	0	0	0	
	1730	"	1007.5	964.2	..	32.0	22.6	16.5	19.6	41	..	2.0	..	16.4	0	5	23	0	9	16	1	0	0	0	2	0	0	
	2330	"	1012.2	967.5	..	24.0	21.2	19.5	23.0	77	..	1.6	..	11.5	0	5	18	2	4	6	2	3	4	2	0	5	0	
Salem	0530	278	1012.1	980.4	..	21.1	19.8	19.0	22.0	88	..	2.2	..	1.7	0	0	14	0	1	12	1	0	0	0	0	0	14	
	0830	"	1013.9	982.4	-0.2	23.6	20.6	18.7	21.6	75	+1	2.2	+0.5	6.3	0	0	25	0	5	20	0	0	0	0	0	3	0	
	1130	"	1012.9	982.0	..	29.8	22.3	17.8	20.4	50	..	2.6	..	4.3	0	0	24	0	4	9	0	2	4	4	1	4	0	
	1730	"	1007.9	977.4	..	32.8	22.5	16.0	18.2	39	..	2.1	..	5.9	0	0	27	0	0	20	1	4	0	2	0	0	0	
	2330	"	1012.4	981.1	..	25.5	21.5	19.0	22.0	69	..	1.6	..	11.7	0	1	27	0	2	21	5	0	0	0	0	9	11	
Kallakurichi	0830	127	1013.9	999.5	..	24.6	22.1	20.6	24.5	79	..	2.5	..	2.9	0	0	17	2	0	0	2	4	0	0	0	1	0	
	1730	"	1009.0	994.9	..	31.9	23.3	18.4	21.6	48	..	2.6	..	12.5	0	0	27	0	9	14	3	1	0	0				

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.		Relative humidity %	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.	Departure from normal		Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	W	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Madras State Coold. Vellore . . .	0530	214	1012.4	987.7	..	20.3	19.4	18.9	21.8	91	..	3.0	..	0.3	0	0	3	0	0	0	0	0	0	3	0	25	0		
	0830	"	1014.2	989.6	-0.1	22.1	20.0	18.6	21.4	82	0	2.9	+0.5	0.5	0	0	5	0	0	0	2	2	1			23	0		
	1130	"	1013.3	989.3	..	28.3	21.7	17.7	20.2	55	..	2.6	..	5.1	0	0	26	1	3	6	3	1	3	7	2	2	0		
	1730	"	1009.3	985.6	..	30.8	20.3	13.8	15.8	38	..	1.9	..	8.9	0	0	28	0	2	7	16	3	0	0	0	0	0		
	2330	"	1013.2	988.9	..	24.7	21.2	19.1	22.1	71	..	1.1	..	2.3	0	0	13	0	1	10	2	0	0	0	0	15	0		
Tambaram (Aerodrome)	0830	29	1013.7	1010.4	..	25.6	23.5	22.5	27.3	83	..	2.5	..	6.6	0	0	27	1	1	0	1	1	6	6	11	1	0		
	1730	"	1010.4	1007.1	..	28.7	23.4	20.5	24.5	62	..	1.9	..	18.6	0	12	16	0	0	7	19	2	0	0	0	0	0		
Madras . . .	0230	16	1011.8	1010.0	..	23.4	22.1	21.4	25.5	89	..	1.5	..	3.8	0	0	16	0	0	6	3	2	2	2	1	12	4	5	0
	0530	"	1011.8	1010.0	..	22.8	22.0	21.5	25.6	92	..	1.6	..	5.0	0	0	23	1	0	1	1	0	4	12	4	5	0		
	0830	"	1014.3	1012.5	+0.1	25.0	23.0	21.9	26.3	83	+3	2.3	+0.1	7.0	0	0	26	1	0	2	0	3	6	7	7	2	0		
	1130	"	1014.0	1012.2	..	29.7	23.3	19.8	23.1	56	..	2.5	..	11.4	0	2	25	0	1	9	3	7	4	1	0	1	2		
	1730	"	1010.9	1009.2	..	28.5	23.6	21.1	25.0	65	..	2.1	..	15.2	0	3	25	0	0	14	11	2	0	0	0	0	1		
2330	"	1013.5	1011.7	..	24.2	22.4	21.4	25.5	85	..	1.4	..	5.6	0	0	22	0	0	12	5	5	0	0	0	0	6	0		
Madras (Nungambakam)	0830	6	1013.9	1013.2	..	25.4	22.9	21.7	25.8	80	..	2.0	..	5.4	0	0	28	2	2	0	3	3	5	6	7	0	0		
Coastal Mysore Karwar . . .	0830	4	1013.4	1013.0	..	22.7	20.8	19.8	23.1	84	..	0.1	..	2.1	0	0	18	0	8	9	1	0	0	0	0	10	0		
	1730	"	1010.0	1009.6	..	28.5	24.1	22.1	26.3	68	..	0	..	12.9	0	3	24	0	0	0	0	0	0	12	13	1	2		
Honavar . . .	0830	26	1013.4	1010.3	-0.2	22.3	20.6	19.5	23.0	85	+11	3.1	+0.7	0.4	0	0	4	0	1	3	0	0	0	0	0	24	0		
	1730	"	1009.8	1006.9	..	29.5	24.5	22.2	26.7	65	..	1.9	..	2.8	0	0	22	0	0	0	0	0	1	15	6	6	0		
Mangalore . . .	0230	22	1010.9	1008.4	..	24.9	22.9	20.0	26.4	84	..	1.3	..	4.5	0	0	22	4	7	11	0	0	0	0	0	6	0		
	0530	"	1010.9	1008.4	..	23.9	22.4	21.6	25.8	87	..	1.4	..	8.9	0	0	28	0	9	16	2	0	0	0	1	0	0		
	0830	"	1013.1	1010.6	-0.1	25.5	22.9	21.6	25.8	80	+7	1.0	-0.8	6.8	0	0	26	2	1	21	2	0	0	0	0	2	0		
	1130	"	1013.2	1010.7	..	29.5	23.8	20.9	24.7	61	..	1.5	..	10.3	0	1	26	1	0	3	2	0	4	9	8	1	0		
	1730	"	1009.4	1006.9	..	28.7	24.4	22.4	27.1	68	..	1.7	..	15.7	0	3	25	0	0	0	0	0	0	10	18	0	0		
2330	"	1012.2	1009.7	..	26.2	23.6	22.4	27.1	79	..	2.0	..	6.8	0	0	25	11	5	3	1	0	3	1	1	3	0			
Mangalore (Bajpe Aerodrome) . . .	0530	103	1011.0	999.2	..	22.3	21.6	21.1	25.0	93	..	2.4	..	1.3	0	0	14	0	1	12	1	0	0	0	0	14	0		
	0830	"	1013.1	1001.4	..	25.0	22.8	22.0	26.4	82	..	3.5	..	3.8	0	0	20	1	0	16	3	0	0	0	0	8	0		
	1730	"	1009.2	997.7	..	29.0	23.8	21.2	25.3	63	..	2.3	..	17.7	0	0	28	1	0	0	0	0	0	20	7	0	0		
Interior Mysore (North)	Bidar . . .	0830	664	1013.6	939.8	..	22.3	15.7	10.1	13.0	49	-4	0.7	-0.7	11.9	0	1	27	2	4	0	2	1	8	1	10	0	0	
		1730	"	1007.2	936.0	..	31.5	17.7	6.8	10.1	23	..	2.0	..	10.0	0	0	28	0	6	0	0	2	9	1	10	0	0	
Gulbarga . . .	0830	458	1013.7	962.6	+0.2	25.6	16.4	9.0	12.0	37	-11	1.3	+0.6	11.5	0	2	25	2	5	9	6	4	1	0	0	1	0		
	1730	"	1007.1	957.7	..	33.8	18.2	5.6	9.6	18	..	2.3	..	15.0	0	8	15	2	3	2	5	4	1	3	3	5	0		
Bijapur . . .	0830	594	1013.7	947.3	0	22.3	17.6	14.7	16.8	63	+11	0.1	-0.9	3.7	0	0	25	15	0	3	0	2	0	1	4	3	0		
	1730	"	1006.5	942.9	..	33.5	24.5	20.5	24.1	47	..	1.3	..	2.0	0	0	19	3	2	1	2	2	5	2	2	9	0		
Belgaum . . .	0830	753	1013.3	930.1	0	22.1	15.4	10.6	12.8	49	-10	0.1	-1.0	2.0	0	0	16	6	1	1	0	1	2	0	5	12	0		
	1730	"	1007.0	926.6	..	30.6	18.1	8.7	11.2	28	..	0.7	..	10.3	0	0	28	0	4	3	1	0	4	13	3	0	0		
Belgaum (Sambre Aerodrome) . . .	0530	747	1011.8	928.5	..	19.3	15.7	13.5	15.5	69	..	0.3	..	0.3	0	0	2	0	0	1	0	0	1	0	0	26	0		
	0830	"	1013.5	930.7	..	21.4	16.3	13.1	15.0	59	..	0.6	..	2.5	0	0	16	0	2	6	7	1	0	0	0	12	0		
	1130	"	1012.1	931.1	..	27.7	18.7	13.2	15.2	42	..	0.3	..	10.1	0	2	23	2	10	4	3	4	2	0	0	3	0		
	1730	"	1006.8	927.1	..	31.6	19.5	13.2	15.4	35	..	0.9	..	15.0	0	9	17	2	4	2	1	2	9	5	1	2	0		
Gadag . . .	0830	650	1013.3	941.4	+0.3	23.7	18.1	14.4	16.7	57	0	0.3	-0.6	3.8	0	0	19	6	0	2	5	1	1	3	1	9	0		
	1730	"	1006.9	937.6	..	33.0	21.4	14.5	16.9	34	..	0.9	..	6.0	0	0	23	4	4	4	1	0	2	4	4	5	0		
Gadag (P.B.O.) . . .	0530	661	1011.0	937.5	..	21.1	15.9	13.0	14.4	61	..	0.2	..	4.5	0	0	15	5	1	0	1	4	0	2	2	13	0		
	0830	"	1013.2	939.9	..	23.0	16.6	13.1	15.1	55	..	0.1	..	4.2	0	0	13	3	1	0	2	1	0	2	4	15	0		
	1130	"	1011.9	940.2	..	29.1	17.9	11.1	12.3	34	..	0.4	..	8.0	0	1	21	3	2	1	4	2	0	6	4	6	0		
	1730	"	1007.1	936.3	..	31.5	18.4	10.1	12.3	29	..	1.2	..	4.9	0	0	13	4	2	0	2	1	0	2	2	15	0		
2330	"	1011.2	938.6	..	24.7	17.8	13.8	15.5	52	..	0.2	..	9.7	0	1	22	1	0	3	4	0	1	13	1	5	0			
Raichur . . .	0830	400	1013.3	968.4	-0.3	24.4	18.5	14.1	16.5	54	0	3.9	+2.9	3.6	0	0	22	2	6	2	5	2	3	0	2	6	0		
	1730	"	1007.9	964.6	..	33.5	21.2	12.4	15.2	29	..	4.0	..	3.3	0	0	25	2	6	3	8	1	1	1	3	3	0		
Interior Mysore (South)	Bellary . . .	0830	449	1012.9	962.7	-0.4	24.5	18.0	13.0	15.4	51	-3	0.6	-0.8	4.5	0	0	26	0	1	0	13	0	8	0	4			

TABLE III.—SUMMARY OF OBSERVATIONS AT FIXED HOURS—FEBRUARY, 1959 (MAGHA 12—PHALGUNA 9, 1880 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in f.o.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		Wind direction												
															62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Interior Mysore South—Contd.																											
Shimoga	0830	571	1014.1	949.8	..	20.0	17.7	16.3	10.5	80	..	2.0	..	2.2	0	0	19	0	0	2	3	8	4	1	0	9	1
	1730	"	1006.2	945.0	..	32.7	19.2	9.7	12.3	25	..	1.0	..	5.5	0	0	26	3	5	12	0	0	1	4	1	2	0
Eteleannur	0830	..	..	..	..	18.3	17.0	16.1	18.4	88	+8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hassan	0830	960	1530.1	908.4	..	19.9	16.8	14.7	16.9	73	+5	2.4	+0.2	2.0	0	0	12	0	0	4	0	3	1	4	0	16	0
	1730	"	1515.6	904.9	..	30.0	17.5	8.1	10.9	27	..	1.7	..	5.6	0	0	24	2	1	14	3	0	0	3	1	4	0
Mysore	0830	767	1013.5	928.5	-0.1	20.8	17.5	15.3	17.6	72	+6	2.4	+0.2	8.5	0	0	28	0	2	4	2	6	6	5	3	0	0
	1730	"	1006.4	924.7	..	31.3	17.4	6.1	9.7	21	..	2.1	..	15.3	0	7	21	1	13	9	0	0	1	2	2	0	0
Bangalore (Central Observatory)	0230	921	1508.5	910.5	..	19.2	16.4	14.4	16.6	75	..	1.3	..	10.5	0	0	27	0	0	10	12	3	1	0	1	1	0
	0830	"	1531.6	912.6	+0.2	20.6	17.4	15.2	17.6	73	+3	2.0	+0.2	10.7	0	0	29	0	0	7	13	3	1	4	0	0	0
	1130	"	1543.7	912.6	..	26.6	18.1	12.3	14.5	42	..	1.8	..	11.5	0	0	28	0	1	12	8	2	3	1	1	0	0
Bangalore (Acro-drome)	0530	897	1508.0	913.1	..	18.3	16.2	14.6	16.6	80	..	1.3	..	6.4	0	0	18	0	0	10	3	1	3	1	0	10	0
	0830	"	1533.6	915.3	..	21.3	17.7	15.3	17.4	70	..	2.8	..	7.6	0	0	18	0	1	9	3	1	1	3	0	10	0
	1130	"	1547.6	915.2	..	27.9	18.1	11.1	13.3	37	..	2.3	..	13.1	0	6	18	0	2	14	4	1	1	1	1	4	0
	1730	"	1519.1	911.8	..	29.7	17.9	9.2	11.8	29	..	2.3	..	11.1	0	2	21	0	3	17	2	0	0	0	1	5	0
	2330	"	1527.6	914.6	..	21.4	16.6	13.2	15.2	62	..	1.3	..	10.3	0	0	22	0	0	21	1	0	0	0	0	0	6	0
Kerala																											
Kozhikode	0530	5	1011.0	1010.5	..	24.4	23.0	22.3	26.9	88	..	1.8	..	5.5	0	0	28	1	13	13	1	0	0	0	0	0	0
	0830	"	1012.7	1012.2	-0.2	27.0	23.6	21.9	26.3	74	-5	1.9	-0.2	4.9	0	0	25	0	5	16	2	1	0	0	1	3	0
	1130	"	1012.9	1012.4	..	31.2	25.4	22.8	27.7	61	..	2.3	..	9.3	0	0	28	0	0	0	0	1	11	12	4	0	0
	1730	"	1009.4	1008.9	..	30.7	25.8	23.6	29.1	66	..	1.5	..	17.2	0	3	25	0	0	0	0	0	0	5	23	0	0
	2330	"	1012.1	1011.6	..	27.2	24.5	23.2	28.4	79	..	1.3	..	6.9	0	2	24	13	3	1	1	0	0	2	6	2	0
Falghat	0830	97	1013.2	1002.2	..	26.5	22.1	19.7	22.9	67	..	2.7	..	9.3	0	0	25	0	0	7	15	0	2	1	0	3	0
	1730	"	1007.8	997.2	..	34.8	21.9	13.2	15.1	29	..	2.6	..	12.4	0	1	27	0	3	11	7	0	4	3	0	0	0
Fort Cochin	0830	3	1012.8	1012.5	-0.1	27.7	23.8	22.0	26.4	71	-2	4.4	+2.6	6.1	0	0	22	1	15	5	1	0	0	0	0	6	0
	1730	"	1008.8	1008.5	..	29.4	25.1	23.1	28.3	69	..	3.7	..	10.5	0	1	27	0	0	0	0	0	2	17	9	0	0
Cochin (Naval Air Station)	0230	3	1011.7	1011.4	..	25.6	24.5	23.9	29.8	91	..	2.1	..	0.9	0	0	8	0	2	4	1	1	0	0	0	20	0
	0530	"	1011.6	1011.3	..	24.4	23.7	23.3	28.8	93	..	2.5	..	2.8	0	0	20	2	6	10	1	1	0	0	0	8	0
	0830	"	1013.0	1012.7	..	26.8	24.1	22.9	27.7	79	..	2.9	..	6.3	0	0	25	1	5	19	0	0	0	0	0	3	0
	1130	"	1012.9	1012.6	..	30.6	25.4	23.0	28.4	64	..	3.1	..	8.5	0	0	27	1	0	1	0	2	3	10	10	1	0
	1730	"	1010.2	1009.9	..	29.7	26.3	24.9	31.5	75	..	2.9	..	16.0	0	6	22	0	0	0	0	0	6	10	12	0	0
Aleppey	0830	4	1012.4	1012.0	..	27.5	24.3	22.8	27.7	76	..	3.5	..	6.0	0	0	28	0	5	16	7	0	0	0	0	0	0
	1730	"	1008.8	1008.4	..	30.1	25.5	23.3	28.8	67	..	3.5	..	18.9	0	9	19	0	0	0	0	0	0	16	12	0	0
Punalur	0830	34	1012.8	1008.9	..	24.3	22.1	20.9	24.7	82	..	0.8	..	0.6	0	0	5	1	0	1	2	1	0	0	0	23	0
	1730	"	1008.3	1004.5	..	33.4	24.8	20.9	24.7	49	..	2.9	..	6.9	0	0	27	0	1	6	8	3	8	0	1	1	0
Trivandrum	0230	64	1010.8	1003.6	..	24.7	23.0	22.0	26.8	86	..	1.9	..	4.9	0	0	26	6	7	5	2	0	0	0	6	2	0
	0530	"	1010.7	1003.4	..	23.7	22.2	21.3	25.6	88	..	1.4	..	4.8	0	0	26	6	14	4	1	0	0	0	1	2	0
	0830	"	1012.5	1005.2	-0.2	25.6	23.0	21.7	26.1	79	+1	2.1	0	4.1	0	0	27	4	15	1	3	0	1	0	3	1	0
	1130	"	1012.3	1005.1	..	30.7	23.9	20.4	24.1	55	..	3.6	..	5.5	0	0	27	2	2	2	1	3	9	4	4	1	0
	1730	"	1009.4	1002.2	..	29.4	24.1	21.4	25.3	62	..	3.7	..	6.4	0	0	28	0	0	0	0	1	16	9	2	0	0
Trivandrum (Aerodrome)	0830	8	1012.5	1011.6	..	26.1	23.6	22.5	27.0	81	..	1.9	..	3.8	0	0	22	8	3	1	1	0	1	2	6	6	0
	2330	"	1012.5	1011.6	..	26.1	23.2	21.8	26.0	77	..	3.3	..	4.2	0	0	22	11	2	0	0	0	0	2	7	6	0
Arabian Sea Islands																											
Minicoy*	0530	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amini Divi*	0830	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hill Stations excluding Kashmir																											
Walong (R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kohima	0830	1406	1537.3	863.8	..	12.2	8.1	3.9	7.4	54	..	3.0	..	..	0	0	28	4	1	7	3	6	0	0	5	0	2
	1730	"	1513.7	861.0	..	13.8	11.2	8.1	11.7	70	..	3.0	..	..	0	0	28	5	1	0	0	0	12	7	2	0	1
Aijal	0830	..	..	..	..	15.2	12.3	7.1	12.2	51	..	2.2	..	3.8	0	0	28	1	1	5	1	4	5	10	1	0	0
	1730	..	..	..	..	18.4	12.6</																				

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hill Stations excluding Kashmir—Contd.																												
Shillong	0830	1500	1494.6	849.7	-1.5	12.5	7.8	2.1	7.2	51	-10	1.6	-0.5	2.4	0	0	10	0	0	0	0	0	0	9	1	0	18	0
	1730	"	1471.6	847.3	..	11.7	9.0	8.9	9.6	70	..	5.2	..	2.9	0	0	11	0	0	0	0	0	10	1	0	17	0	
Cherrapunji	0830	1313	1496.7	868.9	-1.5	13.2	10.4	8.2	10.6	74	+14	2.3	-0.2	5.7	0	0	28	0	9	0	2	0	17	0	0	0	0	
	1730	"	1473.2	866.8	..	14.1	12.4	9.3	13.2	73	..	2.6	..	6.5	0	0	28	0	5	0	2	0	21	0	0	0	0	
Dariling (Raj Bhawan)	0830	2127	1519.5	790.2	+2.0	6.3	5.4	4.5	8.5	88	+17	5.3	+1.5	0.3	0	0	3	2	0	0	0	0	1	0	0	25	0	
	1730	"	1495.1	787.7	..	5.9	5.2	4.6	8.4	91	..	6.4	..	1.2	0	0	10	0	0	0	0	0	6	3	0	18	1	
Kalimpong	0830	1209	1480.6	878.1	-3.1	13.0	11.5	10.8	12.5	83	+10	2.4	-0.4	2.8	0	0	26	0	0	0	0	0	0	0	0	26	2	0
	1730	"	1468.3	876.7	..	13.4	11.9	11.0	12.8	84	..	2.7	..	3.0	0	0	28	0	0	0	28	0	0	0	0	0	0	0
Katmandu (Hydromet)	0830	1324	1493.9	867.8	..	7.6	6.7	5.8	9.1	88	..	3.6	..	0.1	0	0	1	1	0	0	0	0	0	0	0	0	27	0
	1130	"	1494.1	867.3	..	15.9	10.6	5.2	8.9	50	..	2.3	..	1.3	0	0	11	1	2	3	1	2	1	0	1	17	0	
	1730	"	1471.2	865.4	..	14.1	10.1	6.1	9.5	59	..	2.5	..	2.5	0	0	16	1	1	0	2	2	3	3	4	12	0	
Mukteswar (Kumaon)	0830	2311	3088.6	770.7	-1.4	4.5	0.9	-6.1	4.2	54	0	3.0	-0.1	11.4	0	6	16	0	2	3	0	0	0	9	8	6	0	
	1730	"	3085.4	769.6	..	7.4	4.3	0.5	6.5	65	..	4.0	..	15.0	0	5	23	0	1	2	1	1	1	13	9	0	0	
Nainital	0830	1953	1484.2	803.2	..	6.6	2.5	-3.6	4.7	46	..	3.1	..	6.9	0	1	17	5	2	4	1	0	0	3	3	10	0	
	1730	"	1468.1	802.2	..	8.1	4.9	0.9	6.6	64	..	4.0	..	7.7	0	0	26	4	0	3	2	1	2	10	4	2	0	
Joshimath	0830	..	..	..	..	5.3	1.9	-3.5	5.3	58	..	3.9	..	7.8	0	0	22	0	1	14	2	1	0	1	0	6	3
	1730	..	..	..	..	7.9	3.9	-0.8	5.9	57	..	5.3	..	6.4	0	0	26	0	0	2	2	12	7	0	0	2	3
Badrinath	0830	..	..	..	..	Closed during winter months										..	..	..	..	..	..	..	..	..	..	..	..
Lokpal	0830	-7.0	-8.3	-11.1	1.4	72
Musoorie	0830	2042	1485.6	794.5	-2.3	5.7	3.0	-0.5	5.7	67	+2	3.4	-0.4	3.0	0	0	18	7	2	0	1	2	1	0	5	10	0	
	1730	"	1469.5	793.6	..	7.2	6.0	5.1	8.7	87	..	5.8	..	3.7	0	0	24	3	1	1	3	8	5	1	2	4	0	
Simla	0830	2202	1483.9	779.4	-1.1	5.3	0.9	-7.8	3.8	46	0	3.8	+0.2	2.8	0	0	21	3	6	0	4	4	3	0	1	7	0	
	1730	"	1474.6	778.8	..	6.2	3.1	-1.3	5.7	63	..	5.2	..	3.1	0	0	27	2	3	1	7	8	4	0	2	1	0	
Dalhousie	0830	1959	1443.6	798.7	..	4.8	1.7	-3.5	5.1	62	..	3.1	..	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
	1730	"	1454.0	800.0	..	7.2	4.5	0.9	6.6	70	..	3.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
Dharamshala	0830	1212	1528.6	882.7	..	9.7	6.4	2.3	7.0	61	..	4.1	..	1.2	0	0	6	0	4	1	0	1	0	0	0	0	22	0
	1730	"	1525.1	882.7	..	13.4	9.4	5.4	9.0	60	..	5.0	..	3.9	0	0	28	0	3	2	1	2	12	8	0	0	0	
Abu	0830	1195	1507.5	882.3	-0.7	14.1	9.0	2.8	7.8	52	+9	1.1	-0.6	1.3	0	0	8	1	0	0	0	2	2	3	0	20	0	
	1730	"	1505.7	881.4	..	19.8	12.0	4.1	8.6	37	..	0.5	..	0.8	0	0	4	0	0	0	0	1	2	1	0	24	0	
Pachmarhi	0830	1075	1520.6	895.9	-0.4	15.3	10.9	6.5	9.8	59	+7	0.4	-1.3	2.8	0	0	18	2	0	0	2	2	2	3	7	10	0	
	1730	"	1510.8	893.7	..	23.6	13.9	4.9	8.7	31	..	0.4	..	3.9	0	0	28	7	2	0	0	3	0	7	9	0	0	
Mahabaleswar	0830	1382	1534.3	865.4	+0.9	19.4	11.0	2.1	7.1	33	-14	0.5	-0.1	9.0	0	0	28	8	3	8	3	1	2	0	3	0	0	
	1730	"	1517.1	863.5	..	24.1	14.4	5.7	9.3	33	..	0.3	..	8.3	0	0	28	5	1	0	0	0	5	9	8	0	0	
Nandi Hills	0830	..	..	..	..	20.4	20.4	20.4	24.0	100	..	8.0	..	10.3	0	1	27	0	4	1	11	7	5	0	0	0	0
Mercara	0830	1132	1527.7	888.1	+0.6	19.7	16.0	13.2	15.5	68	-6	0.7	-2.2	3.5	0	0	28	1	10	11	0	0	0	3	3	0	0	
	1730	"	1511.4	885.6	..	25.5	17.8	12.1	14.8	46	..	1.9	..	4.6	0	0	28	0	9	9	0	0	0	5	5	0	0	
Kodaikanal	0530	2343	3139.8	771.4	..	9.7	6.1	1.3	7.0	60	..	3.5	..	9.1	0	4	17	9	2	1	1	1	0	1	6	7	0	
	0830	"	3167.1	773.1	+1.0	12.9	7.6	0.1	7.0	51	-1	3.4	+1.6	6.8	0	0	22	5	10	3	3	0	0	0	1	6	0	
	1130	"	3186.5	773.6	..	17.5	10.2	2.2	7.7	41	..	3.1	..	8.4	0	0	25	5	10	3	3	0	0	0	4	3	0	
	1730	"	3159.4	771.7	..	15.1	10.6	6.0	10.0	60	..	3.6	..	3.7	0	0	17	7	1	0	2	0	0	0	7	11	0	
	2330	"	3162.7	773.3	..	10.6	7.3	3.0	8.1	66	..	3.3	..	9.1	0	5	14	11	1	1	0	1	0	0	5	9	0	
Octacumund	0830	2249	1529.1	781.4	+0.6	13.2	8.6	3.8	8.2	57	-9	0.5	-1.3	2.5	0	0	11	0	11	0	0	0	0	0	0	0	17	0
	1730	"	1503.5	780.2	..	17.9	12.1	7.3	10.3	54	..	2.4	..	0.4	0	0	2	2	0	0	0	0	0	0	0	0	26	0
Coonor	0830	1747	1534.7	829.6	..	16.9	11.7	7.3	10.3	56	-6	1.9	-0.3	1.0	0	0	9	2	2	1	1	1	0	1	1	19	0	
Sikkim																												
Lachen	0830	2.1	1.2	-0.2	6.0	86
Tibet																												
Yatung (Chumbi)	0830	1.8	1.0	-0.4	6.1	87	+5	1.0	-1.5
Lhasa	0830	3685	3060.2	648.2	..	-0.8	-2.5	-5.1	4.2	71	..	0.7	..	4.7	0	0	25	0	4	4	8	5	2	0	2	3	0	
Ceylon																												
Colombo	0830	7	1012.2	1011.4	-0.4	25.2	23.2	22.2	26.8	84	-1	3.8	+0.2	7.0	0	0	27	2	10	12	3	0	0	0	0	1	0	
	1730	"	1008.9	1008.1	..	28.0	24.6	23.1	28.3	73	..	5.0	..	11.9	0	1	26	1	0	0	1	0	6	12	7	1	0	
Trincomalee	0830	3	1013.3	1012.9	+0.3	27.0	23.6	21.9	26.																			

Division and station	Hour of observation	I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, per hour	Wind speed (km. p.h.)			No. of observations:									
				At mean sea level or height in ft. above of nearest standard sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																			N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Hill stations excluding Kashmir--contd.																												
Hambantota . . .	0830	15	1012.6	1010.9	+0.8	26.3	23.3	21.8	26.1	77	-7	2.6	-0.2	17.5	0	10	17	2	20	5	0	0	0	0	0	0	1	0
	1730	"	1009.1	1007.4	..	28.1	24.6	22.9	27.9	74	..	4.0	..	19.3	0	22	6	0	9	18	1	0	0	0	0	0	0	0
Mannar . . .	0830	4	1013.6	1013.2	..	25.8	22.4	22.7	27.6	73	..	3.4	..	9.4	0	0	28	0	13	7	7	1	0	0	0	0	0	
	1730	"	1009.8	1009.4	..	29.6	25.6	21.8	26.1	71	..	3.5	..	13.1	0	3	24	9	12	4	0	0	0	1	1	1	0	
Hydrometeorological Observatories, Damodar Catchment																												
Bokaro . . .	0830	242	1015.1	986.9	..	16.6	13.0	9.6	12.0	65	..	0.6	..	2.0	0	0	16	3	1	0	1	0	4	5	2	12	0	
	1730	"	1010.1	982.7	..	24.2	16.3	8.5	12.3	42	..	1.1	..	5.0	0	0	28	4	3	1	1	0	0	3	16	0	0	
Hazaribagh . . .	0830	615	1014.1	944.2	..	16.9	12.3	8.0	10.7	57	..	0.9	..	4.9	0	0	24	1	0	0	2	2	5	7	7	4	0	
	1730	"	1008.8	939.6	..	17.8	11.7	5.7	9.3	47	..	0.3	..	4.7	0	0	24	0	0	0	0	2	3	11	8	4	0	
Tilaiya . . .	0830	..	..	..	..	17.2	12.9	8.7	11.7	59	..	0.8	..	8.6	0	0	22	0	2	1	0	0	6	12	1	6	0
	1730	..	..	..	..	22.3	14.8	7.5	10.7	41	..	1.0	..	10.6	0	1	26	2	1	1	0	1	0	6	16	1	0
Ramgarh . . .	0830	..	..	..	..	16.8	13.5	10.7	12.8	69	..	0.4	..	1.6	0	0	15	2	0	0	0	0	2	7	4	13	0
	1730	..	..	..	..	23.3	16.8	11.5	13.8	50	..	0.2	..	1.9	0	0	12	1	0	0	1	1	2	6	1	16	0
Panchet Hills . . .	0830	..	..	..	..	19.6	15.2	11.3	13.7	62	..	0.7	..	3.1	0	0	28	0	2	1	1	1	16	6	1	0	0
	1730	..	..	..	..	24.0	17.3	11.8	14.3	51	..	1.1	..	3.5	0	0	28	9	3	1	1	1	5	4	4	0	0
Durgapur . . .	0830	..	..	..	..	20.9	15.1	10.2	12.4	52	..	0.7	..	9.9	0	2	26	3	0	2	1	0	2	5	15	0	0
	1730	..	..	..	..	25.2	16.7	9.3	11.9	39	..	1.1	..	7.4	0	0	28	4	0	1	1	2	3	1	16	0	0
Mahanadi Catchment																												
Baramul . . .	0830	64	1014.3	1006.9	..	21.8	18.8	16.9	19.4	74	..	1.0	..	7.3	0	0	25	3	8	1	3	4	6	0	0	3	0	
	1730	"	1009.8	1002.5	..	26.5	21.3	17.7	21.2	60	..	2.0	..	2.7	0	0	10	1	1	0	0	0	1	0	7	18	0	
Hirakud . . .	0830	159	1014.6	996.3	..	22.0	17.0	13.4	15.3	60	..	0.1	..	2.1	0	0	18	2	4	4	1	1	1	1	4	10	0	
	1730	"	1010.0	992.2	..	28.6	19.3	12.7	14.9	38	..	0.5	..	1.7	0	0	13	1	0	1	0	0	0	7	4	15	0	
Khijrawan* . . .	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sonepur . . .	0830	..	..	..	..	23.3	13.4	15.3	16.4	62	..	..	..	3.5	0	0	23	5	3	3	0	2	3	6	1	5	0
Ginabagar . . .	0830	..	..	..	..	13.0	13.4	9.6	11.6	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhimkund . . .	0830	..	..	..	..	19.3	16.0	12.9	15.6	67	..	1.3	..	2.6	0	0	19	2	3	0	4	0	0	0	10	9	0
	1730	..	..	..	..	26.7	17.7	10.2	20.0	37	..	1.1	..	3.4	0	0	22	1	1	2	5	1	6	0	6	6	0
Narbada Catchment																												
Punasa . . .	0830	..	..	..	..	19.9	12.8	5.2	9.0	39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	31.0	17.7	6.1	9.4	22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dagra Tawa . . .	0830	..	..	..	..	18.2	12.5	6.6	9.9	47	..	0.3	..	7.7	0	0	26	0	9	1	0	4	10	2	0	2	0
	1730	..	..	..	..	28.5	16.7	6.2	9.4	24	..	0.4	..	7.2	0	0	23	0	4	2	0	0	7	7	3	5	0
Thikri . . .	0830	..	..	..	..	21.0	15.4	10.5	13.0	53	..	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sabarmati Catchment																												
Jhadol . . .	0830	..	..	..	..	12.1	9.7	7.2	10.3	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi . . .	0830	..	..	..	..	17.8	12.1	7.1	9.6	46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	27.5	16.3	6.2	9.4	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																												
Mukhim . . .	0830	..	..	..	..	5.9	2.9	-0.7	5.6	63	..	3.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	8.3	5.7	2.9	7.5	69	..	4.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tehri . . .	0830	..	..	..	..	8.7	7.9	7.1	10.1	89	..	4.1	..	0.6	0	0	6	2	1	1	1	0	1	0	0	22	0
	1130	..	..	..	..	14.5	10.4	6.3	9.7	60	..	3.5	..	1.8	0	0	17	3	2	1	0	4	1	6	0	11	0
	1730	..	..	..	..	17.9	11.9	6.3	9.7	50	..	4.5	..	2.9	0	0	19	1	2	1	1	11	2	1	0	9	0
Gandak Catchment																												
Gorkha . . .	(†)0830	..	..	..	..	12.4	10.3	8.1	10.9	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(††)1730	..	..	..	..	12.7	11.3	9.6	11.9	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara . . .	0830	..	..	..	..	13.4	11.0	8.8	11.4	74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.2	12.7	9.8	12.2	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawalot . . .	0830	..	..	..	..	13.8	11.3	9.2	11.6	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.9	11.7	6.9	9.9	51	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomsom . . .	(**)0830	..	..	..	..	3.2	0.4	-3.4	4.8	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(†)1730	..	..	..	..	5.1	2.6	-0.3	6.0	68	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure . . .	(o)0830	..	..	..	..	5.3	2.4	-1.3	5.5	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(†)1730	..	..	..	..	11.7	7.3	2.8	7.3	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																												
Dailkh . . .	0830	..	..	..	..	(c) 8.9	(f) 7.1	(f) 5.2	(f) 8.8	(f) 77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.4	9.7	6.1	9.																		

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in ft. p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	Wind direction													
															62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Hydrometeorological Observatories—contd.																												
Gogra Catchment																												
Dandeldhura . . .	0830	..	..	..	..	7.7	4.9	1.6	7.0	66	..	3.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.0	6.1	3.2	7.6	66	..	3.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal . . .	0830	..	..	..	..	17.3	13.6	10.4	12.6	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	22.1	15.7	10.4	12.7	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																												
Katmandu* . . .	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																												
Chautara . . .	0830	..	..	..	..	10.0	7.9	5.8	9.3	76	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.2	9.8	4.9	8.7	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga . . .	0830	..	..	..	..	8.9	6.8	4.5	8.4	76	..	4.6	..	0.9	0	0	7	0	1	0	0	1	2	1	2	21	0	0
	1130	..	..	..	..	11.2	8.4	5.7	9.1	70	..	5.0	..	2.4	0	0	17	0	0	0	0	3	9	5	0	11	0	0
	1730	..	..	..	..	9.2	7.2	5.1	8.8	76	..	5.5	..	2.9	0	0	18	0	0	0	0	1	5	11	1	10	0	0
Barakhshetra . . .	0830	146	1014.7	997.4	..	14.0	12.6	11.3	13.5	84	..	2.1	..	4.9	0	0	23	2	2	2	1	1	6	4	5	5	0	0
	1130	..	1013.4	996.6	..	21.1	15.7	11.3	13.5	54	..	3.1	..	12.3	0	5	21	0	0	0	0	0	13	12	1	2	0	0
	1730	..	1010.6	993.6	..	19.4	15.3	12.1	14.0	64	..	3.1	..	7.3	0	1	24	0	3	15	1	1	3	1	1	3	0	0
Angbung† . . .	†0830	..	..	..	..	12.0	9.8	7.6	10.5	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	†1730	..	..	..	..	15.2	10.6	6.1	9.5	55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	0830	..	..	..	..	8.4	6.6	4.8	8.6	79	..	4.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	11.9	8.6	5.6	9.1	66	..	4.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	10.0	7.1	4.2	8.2	68	..	6.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taylethok . . .	0830	..	..	..	..	9.9	7.4	4.7	8.5	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	12.8 (f)	9.0 (g)	5.0 (g)	8.7 (g)	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallengchung Gola	0830	..	..	..	..	-0.7	-0.7	-2.5	5.0	76	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	-0.5	-0.9	-1.4	5.4	93	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur . . .	0830	..	..	..	..	10.4	8.0	5.6	9.2	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.5	7.8	6.2	9.5	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	0830	..	..	..	..	12.9	10.4	7.9	10.9	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.7	10.6	7.9	10.6	68	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																												
Gangtok . . .	0830	1812	1495.3	818.3	..	6.4	5.5	4.5	8.5	28	..	4.6	..	1.5	0	0	13	3	2	0	0	4	2	1	1	15	0	0
	1130	..	1488.3	817.9	..	9.4	7.6	5.8	9.2	79	..	5.4	..	3.4	0	0	25	2	0	0	2	5	12	1	3	3	0	0
	1730	..	1471.4	816.0	..	7.4	6.5	5.5	9.1	88	..	7.3	..	4.7	0	0	24	4	2	1	3	13	1	0	0	4	0	0
Geyzing . . .	0830	..	..	..	..	9.1	7.7	6.3	9.6	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.3	7.8	6.3	9.6	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Data included under "Hill station".

†Observations for 26 days.

(f) Mean of 25 days.

(g) Mean of 24 days.

MONTHLY MEANS OF UPPER WINDS, February , 1959 (Magha 12—Phalguna 9, 1880 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a.m.s.l. are given under Table IV and data above 9.0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km.a.g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a.m.s.l. Of these, the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No.	Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
1.	Agartala	23°53'	91°15'	17	28th Nov. 1951	0530	1730	2330
2.	Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330
3.	Amausi	26°45'	80°53'	132	20th Nov. 1950	0530	1730	2330
4.	Ambala	30°23'	76°46'	279	1st Apr. 1941	0530	1730	2330
5.	Amritsar	31°38'	74°52'	243	21st Jun. 1957	0530*	1730*	
6.	Anantapur	14°41'	77°37'	364	12th Feb. 1946	0530	1730	2330
7.	Asansol	23°41'	86°59'	135	29th May 1942	0530	1730	2330
8.	Baghdogra	26°38'	88°19'	140	7th Jun. 1953	0530	1730	2330
9.	Bairagarh	23°17'	77°21'	532	26th Feb. 1943	0530	1730	2330
10.	Bamrauli	25°27'	81°44'	103	28th Feb. 1930	0530*	1130	1730* 2330
11.	Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330
12.	Barcilly	28°22'	79°24'	180	12th Jan. 1943	0530	1730	
13.	Begumpet	17°27'	78°28'	543	1st Sep. 1929	0530	1730	2330
14.	Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730	
15.	Bhubaneshwar	20°15'	85°50'	54	5th Dec. 1942	0530	1730	2330
16.	Bbuj	23°15'	69°48'	90	14th Sep. 1937	0530	1730	2330
17.	Bikaner	28°00'	73°18'	229	18th Oct. 1946	0530	1730	2330
18.	Chikalthana	19°51'	75°24'	583	7th Oct. 1951	0530	1730	2330
19.	Cochin†	09°56'	76°14'	3	16th Mar. 1942	0530	1730	2330
20.	Darjeeling	27°03'	88°16'	2115	21st May 1956	0830	1730	
21.	Dehra Dun	30°19'	78°03'	692	1st Oct. 1958	0530	1730	
22.	Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730* 2330
23.	Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330
24.	Gannavaram	16°32'	80°48'	34	8th Apr. 1942	0530	1730	2330
25.	Gaubhati	26°05'	91°43'	51	12th Mar. 1955	0530*	1130	1730* 2330
26.	Gaya	24°45'	84°57'	119	19th Mar. 1937	0530	1730	2330
27.	Gopalpur	19°16'	84°53'	24	15th Feb. 1946	0530	1730	2330
28.	Gorakhpur	26°45'	83°22'	83	5th Jan. 1943	0530	1730	
29.	Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330
30.	Imphal	24°51'	93°58'	805	8th Mar. 1952	0530	1730	2330
31.	Jabalpur	23°10'	79°57'	402	30th Jul. 1928	0530	1730	2330
32.	Jagdalpur	19°05'	82°02'	562	25th Mar. 1948	0530	1730	2330
33.	Jaipur	26°49'	75°48'	404	6th Jun. 1953	0530	1730	
34.	Jamshedpur	22°49'	86°11'	147	23rd Jul. 1942	0530	1730	
35.	Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330
36.	Jodhpur	26°18'	73°01'	229	15th Oct. 1934	0530*	1130	1730* 2330
37.	Madras	13°00'	80°11'	29	8th Apr. 1926	0530*	1130	1730* 2330
38.	Mangalore	12°52'	74°51'	40	4th Jun. 1928	0530	1730	2330
39.	Minicoy	08°18'	73°00'	16	14th Apr. 1941	0530	1730	2330
40.	Mohanbari	27°29'	95°01'	112	1st Jun. 1948	0530	1730	2330
41.	Nagpur	21°06'	79°03'	316	23rd Apr. 1943	0530*	1130	1730* 2330
42.	Nanpara	27°50'	81°30'	142	23rd Apr. 1957	0530	1730	
43.	New Delhi	28°35'	77°12'	227	20th Oct. 1936	0530*	1130	1730* 2330
44.	Poona	18°32'	73°51'	593	5th Jan. 1925	0530	1730	2330
45.	Port Blair	11°40'	92°43'	93	29th Oct. 1945	0530*	1130	1730* 2330
46.	Raipur	21°14'	81°39'	308	15th Jul. 1944	0530	1730	2330
47.	Raxaul	26°59'	84°51'	83	28th Oct. 1957	0530	1730	
48.	Santa Cruz	19°07'	72°51'	14	14th May 1933	0530*	1130	1730* 2330
49.	Tezpur	26°37'	92°47'	79	12th Aug. 1932	0530	1730	2330
50.	Tiruchirapalli	10°46'	78°43'	96	22nd Jun. 1936	0530	1730	2330
51.	Trivandrum	08°29'	76°57'	73	8th Dec. 1928	0530*	1130	1730* 2330
52.	Udaipur	24°35'	73°42'	587	24th Jun. 1947	0530	1730	2330
53.	Vengurla	15°52'	73°38'	8	22nd Nov. 1941	0530	1730	2330
54.	Veraval	20°54'	70°22'	17	30th Oct. 1941	0530*	1130	1730* 2330
55.	Visakhapatnam	17°43'	83°14'	10	24th Sep. 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km, above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	0.6	0.5	149	28	1.4	0.9	215	28	1.2	0.9	173	28	1.8	1.1	332	28	3.3	2.3	315	28	1.5	0.9	313				
0.15 a. g.	25	4.3	1.5	297	28	4.8	2.8	234	28	5.3	3.2	226	28	8.6	4.9	344	28	4.1	2.8	307	28	6.8	4.6	328				
0.3 a. m. s. l.	25	4.5	2.7	306	28	4.9	3.4	234	28	5.8	4.0	242	28	8.4	4.7	345	28	4.4	2.8	303	28	6.6	4.3	326				
0.6 "	25	4.5	3.1	297	28	4.9	4.0	244	28	5.7	4.6	251	28	6.9	4.3	327	28	4.6	2.8	296	28	5.7	3.8	312				
0.9 "	25	4.8	3.5	293	28	5.2	4.5	250	28	5.9	4.7	259	28	5.9	4.3	301	28	4.6	3.0	293	28	5.7	4.0	295				
1.5 "	25	6.5	6.1	277	28	6.9	6.2	264	27	7.1	6.5	270	28	7.2	6.0	267	28	6.4	5.0	283	28	6.4	4.8	264				
2.1 "	25	10.2	9.7	280	28	9.9	9.6	275	27	10.7	10.4	274	28	10.2	9.2	276	28	9.4	8.3	284	28	8.9	7.4	275				
3.0 "	22	16.1	15.0	277	23	16.0	15.6	281	25	14.5	14.3	280	25	13.0	11.7	281	28	14.4	12.0	283	24	11.0	9.2	280				
3.6 "	15	21.0	20.0	281	13	19.7	19.4	278	9	16.1	15.6	280	9	11.7	11.5	291	28	15.7	14.7	286	2	12.1	11.7	281				
4.5 "	8	26.6	25.9	290	7	23.9	23.5	283	3	18.0	17.8	277	2	12.1	12.1	283	27	18.9	18.6	282								
5.4 "	3	21.1	21.1	280	1	14.4	14.4	270	3	15.3	15.1	274					21	21.0	20.6	277								
6.0 "	1	21.6	21.6	280	1	12.9	12.9	270	2	12.9	12.7	269					18	23.1	22.7	279								
7.2 "	1	32.9	32.9	285													9	23.7	23.5	274								
9.0 "																												

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.0	0.7	294	28	2.6	1.9	280	28	1.7	1.0	285	28	3.3	0.6	344	28	3.2	1.4	307	28	3.9	1.3	330				
0.15 a. g.	27	8.1	4.9	325	28	5.3	3.8	283	28	7.1	4.3	300	28	10.4	4.2	357	27	6.1	4.0	302	28	11.2	4.8	344				
0.3 a. m. s. l.	27	8.1	5.0	327	28	5.3	3.9	283	28	7.1	4.5	299	28	4.3	1.4	353	27	4.0	2.2	298	28	4.6	1.9	331				
0.6 "	27	7.9	5.7	319	28	6.0	4.2	280	28	7.4	5.2	298	28	10.1	3.4	347	27	8.1	3.9	306	28	11.0	3.9	345				
0.9 "	27	8.8	6.7	299	28	6.8	5.1	283	28	7.4	6.3	300	28	9.4	3.0	331	27	9.0	3.6	308	28	10.1	2.8	344				
1.5 "	26	9.7	8.4	287	26	8.6	8.3	293	25	8.0	7.2	289	27	7.4	4.4	309	27	8.1	3.7	308	27	6.8	3.8	291				
2.1 "	16	9.9	9.2	282	26	11.6	11.3	297	21	9.4	8.9	285	26	7.1	5.1	300	27	7.6	3.9	302	24	6.0	4.5	282				
3.0 "	5	11.8	11.4	267	25	15.4	14.9	292	5	11.4	10.4	283	21	7.9	6.9	287	27	8.8	4.9	281	21	5.7	4.5	283				
3.6 "	2	17.8	17.8	262	23	17.5	17.2	290	2	13.4	13.4	254	10	11.2	10.8	285	26	8.7	7.2	290	13	6.9	6.8	280				
4.5 "					18	21.7	21.5	286					2	11.3	11.0	282	24	12.7	11.7	284	10	10.7	10.0	277				
5.4 "					10	24.8	24.6	286									22	18.0	17.5	283	5	15.5	15.3	276				
6.0 "					4	25.6	25.5	285									21	21.9	20.5	281	4	15.1	15.0	275				
7.2 "					1	33.9	33.9	295									16	29.1	28.6	282								
9.0 "																	6	42.3	41.8	285								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	BAIRAGARH								BAMRAULI															
	1730				2330				0530*				1130				1730*				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.8	2.1	293	28	2.5	0.9	360	28	1.0	0.5	258	28	2.4	1.5	275	28	2.6	1.9	295	28	1.5	0.6	286
0.15 a. g.	28	4.6	3.4	295	28	6.8	2.5	346	27	6.5	3.2	314	26	3.7	2.8	281	28	6.7	5.8	291	28	6.8	3.8	314
0.3 a. m. s. l.									27	6.5	3.2	314	26	3.8	2.9	278	28	6.7	5.0	296	28	6.9	3.9	312
0.6 "	28	4.2	3.2	296	28	6.8	2.7	350	27	7.3	4.4	307	26	4.7	4.1	277	28	7.2	5.9	287	27	7.4	4.7	302
0.9 "	28	4.8	3.8	285	28	5.8	2.3	312	27	7.9	6.2	295	26	6.8	6.1	282	28	7.5	6.3	282	27	7.9	6.2	285
1.5 "	28	5.4	4.5	272	28	6.3	5.3	261	28	10.5	9.7	288	26	10.4	9.9	292	28	9.6	8.7	282	26	10.1	9.1	283
2.1 "	28	7.6	6.7	272	28	8.3	7.5	263	28	13.9	13.3	283	26	12.9	12.4	288	28	13.0	12.6	284	17	11.9	11.2	276
3.0 "	28	13.3	12.6	279	25	11.5	10.9	278	28	16.1	15.2	284	26	17.5	16.9	287	28	17.6	16.7	286	7	11.0	10.6	276
3.6 "	25	15.7	15.1	285					28	20.1	19.5	284	26	20.1	19.5	285	28	20.5	19.9	284				
4.5 "	24	19.0	18.6	286					28	24.5	24.0	282	22	23.6	23.0	282	28	25.1	24.5	284				
5.4 "	18	21.2	20.7	281					26	29.1	28.5	282	12	26.1	24.9	281	28	28.6	28.0	283				
6.0 "	14	22.9	22.3	282					26	32.9	32.6	284	6	24.3	23.3	286	28	32.1	31.6	283				
7.2 "	8	27.6	26.7	287					22	37.2	36.8	283	4	31.0	28.9	291	23	39.5	38.5	281				
9.0 "									11	46.4	45.6	279					13	51.1	50.2	280				

Station	BANGALORE												BAREILLY						BEGUMPET					
	0530				1730				2330				0530				1730		0530					
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	3.4	2.3	126	28	2.8	2.4	084	28	4.4	4.1	113	28	2.3	1.2	301	28	2.5	1.6	278	28	1.9	0.8	116
0.15 a. g.	25	6.6	4.3	140	28	3.7	3.1	092	25	10.0	9.2	115	28	9.6	6.0	316	28	5.8	3.4	283	27	5.8	3.0	140
0.3 a. m. s. l.													28	8.8	5.3	313	28	5.4	3.3	286				
0.6 "													28	10.7	6.6	311	28	7.3	4.6	282	27	3.5	1.7	120
0.9 "													28	9.9	6.8	304	28	8.1	5.3	286	26	6.9	3.7	148
1.5 "	25	6.2	3.8	105	28	4.1	3.7	077	25	8.6	7.5	097	28	9.7	8.4	299	28	8.6	6.9	299	24	4.7	0.5	334
2.1 "	25	5.3	3.8	042	28	4.5	3.5	060	25	5.6	4.5	037	26	11.1	9.8	289	26	9.7	8.7	296	24	5.3	4.1	318
3.0 "	25	6.1	4.1	032	26	5.3	3.0	027	25	6.8	4.4	032	16	11.3	10.4	284	26	13.1	12.3	289	24	6.4	4.9	319
3.6 "	23	6.3	3.1	039	26	5.4	2.3	025	25	6.4	4.3	040	10	13.3	12.8	286	22	15.3	14.7	289	22	6.8	5.5	321
4.5 "	20	7.1	2.2	029	25	6.8	2.6	017	17	6.7	3.9	066					18	20.8	20.1	287	19	8.5	6.7	307
5.4 "	12	7.8	1.9	042	24	6.5	3.6	041	8	6.2	2.1	060					10	25.3	24.3	282	9	8.1	6.2	298
6.0 "	5	7.3	5.2	326	24	6.3	3.1	043	3	4.6	1.0	036					7	32.4	31.0	278	4	7.4	7.2	299
7.2 "	2	6.9	6.9	294	24	5.4	1.9	023									1	58.1	58.1	285				
9.0 "	2	5.9	5.9	327	20	6.8	4.0	328																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	BEGUMPET								BHAGALPUR								BHUBANESHWAR											
	1730				2330				0530				1730				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.6	0.4	088	28	2.4	1.9	110	28	2.7	2.0	235	28	2.3	1.9	290	28	1.7	0.4	321	28	4.0	2.5	177				
0.15 a.g.	28	3.4	1.0	025	28	6.3	5.3	122	28	4.8	3.4	287	28	4.9	4.3	289	28	5.9	1.6	222	28	5.7	3.0	165				
0.3 a.m.s.l.									28	5.1	3.7	290	28	5.3	4.7	285	28	5.9	2.7	230	28	6.0	3.4	168				
0.6 "	28	3.5	0.7	275	28	4.3	3.4	111	28	6.1	5.7	296	28	6.9	6.5	280	28	5.3	2.9	253	28	5.1	2.3	205				
0.9 "	28	3.5	0.8	085	28	6.8	5.9	130	28	7.1	6.7	291	28	7.9	7.5	274	27	4.8	3.5	275	28	4.2	2.2	275				
1.5 "	28	3.0	0.6	315	28	4.5	0.8	128	28	10.9	10.5	287	28	10.1	9.9	278	26	6.3	5.8	293	28	6.2	5.6	293				
2.1 "	28	3.7	2.0	298	27	4.7	3.8	306	24	13.2	12.9	287	28	14.2	13.9	281	25	9.9	8.9	295	25	10.0	9.6	240				
3.0 "	28	6.2	4.8	310	25	6.9	6.1	307	13	15.3	15.0	295	22	18.7	18.4	287	24	12.9	11.7	305	22	13.3	12.6	300				
3.6 "	28	7.7	6.5	310	18	6.5	5.5	318	7	16.8	16.3	295	19	22.9	22.4	286	10	11.8	11.6	293	22	15.4	13.9	286				
4.5 "	27	8.7	7.7	305	5	7.6	6.1	325	1	16.0	16.0	290	11	30.2	29.6	287	4	14.9	14.6	270	12	17.9	17.1	296				
5.4 "	23	10.5	9.8	294	2	8.0	7.2	333	1	22.1	22.1	295	9	34.7	33.9	285	2	18.3	17.8	285	9	20.4	19.9	297				
6.0 "	22	11.7	11.1	293	1	7.7	7.7	300	1	26.2	26.2	290	7	35.5	34.0	290	2	22.4	21.3	291	7	23.1	23.0	299				
7.2 "	19	14.2	13.3	295	1	11.8	11.8	270					4	34.3	32.3	286					1	33.4	33.4	285				
9.0 "	17	16.9	15.9	283																								

Station	BHUBANESHWAR				BHUJ								BIKANER															
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.3	1.9	181	28	1.1	0.7	252	28	3.3	2.1	294	28	2.1	1.8	268	28	1.1	0.2	258	28	0.7	0.6	259				
0.15 a.g.	28	6.8	5.0	193	27	6.0	3.6	307	28	4.7	2.8	297	28	5.7	3.7	300	28	6.4	2.4	094	27	3.8	2.2	295				
0.3 a.m.s.l.	28	7.3	5.3	203	27	6.6	3.9	313	28	4.8	2.9	293	28	6.1	3.8	305	28	5.5	2.5	099	27	3.4	2.0	300				
0.6 "	28	6.4	4.3	221	27	6.5	3.6	304	28	4.7	2.9	290	28	5.3	2.8	309	28	6.0	0.8	288	27	3.8	1.9	292				
0.9 "	27	5.5	3.8	265	27	5.9	3.8	287	28	4.9	3.1	290	28	5.5	2.7	296	28	5.9	2.8	285	27	4.2	1.8	286				
1.5 "	25	7.4	6.5	292	27	6.9	6.2	279	28	6.4	5.4	275	28	7.1	5.6	279	28	7.2	5.7	281	27	4.8	2.8	264				
2.1 "	24	10.0	9.1	299	28	9.5	8.8	275	28	9.8	9.0	275	28	9.5	8.8	281	27	7.8	6.4	268	25	7.2	5.9	267				
3.0 "	22	13.5	12.4	297	25	10.8	9.8	278	28	14.3	13.6	281	24	11.0	10.0	281	23	11.2	9.9	277	24	11.7	10.8	273				
3.6 "	6	10.8	9.6	290	2	13.9	13.9	273	28	16.6	15.8	274	1	15.4	15.4	280	9	11.7	11.4	276	22	15.0	14.8	279				
4.5 "	2	11.1	10.6	277					27	18.4	17.7	276					1	4.1	4.1	286	19	20.1	19.3	279				
5.4 "	1	19.0	19.0	295					20	21.1	20.5	279									13	22.4	22.2	280				
6.0 "	1	16.0	16.0	275					18	21.7	20.6	278									8	24.7	23.9	281				
7.2 "									5	25.0	24.9	271									1	28.8	28.8	285				
9.0 "									1	40.0	40.0	295																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	BIKANER				CHIKALTHANA								COCHIN											
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	1.5	0.8	008	28	1.3	1.0	297	28	2.7	2.0	285	28	2.0	1.7	315	28	1.0	0.9	064	28	4.3	3.2	271
0.15 a.g.	28	6.8	3.5	019	28	5.2	3.0	002	28	4.1	3.1	290	28	6.4	5.0	349	27	3.3	2.3	058	28	5.1	4.5	275
0.3 a. m. s. l	28	5.3	2.8	018													27	2.6	1.9	012	28	5.7	5.1	275
0.6 "	28	6.2	2.3	006													27	2.8	1.6	352	28	3.9	2.9	286
0.9 "	27	4.8	1.0	293	28	5.7	2.8	357	28	4.2	3.1	277	28	6.7	5.4	347	27	2.8	0.8	056	28	3.0	1.6	022
1.5 "	27	6.0	4.5	237	28	5.0	3.0	268	28	4.4	3.2	286	28	4.7	3.0	294	27	4.2	3.3	060	28	5.9	5.5	064
2.1 "	27	9.2	8.3	253	28	6.6	5.0	260	28	5.1	4.2	280	28	5.6	4.2	244	27	6.5	5.7	056	27	6.8	6.6	056
3.0 "	23	11.1	10.7	276	28	8.1	7.3	281	28	6.6	5.8	284	28	6.8	5.9	262	27	5.7	4.8	067	26	6.0	4.7	058
3.6 "	13	12.6	12.1	273	22	9.2	8.7	291	28	8.3	7.7	290	19	7.8	7.1	278	25	5.5	2.9	068	26	6.3	4.2	065
4.5 "	2	17.2	14.9	274	5	11.5	10.4	292	27	11.2	10.4	296					17	5.9	3.0	077	10	6.7	4.7	054
5.4 "									27	14.1	13.4	287					7	7.7	5.0	076	3	5.7	5.3	058
6.0 "									27	16.7	16.1	286					3	2.9	2.7	070				
7.2 "									6	18.4	18.2	279					1	6.7	6.7	015				
9.0 "																	1	7.2	7.2	050				

Station	COCHIN				DARJEELING								DEHRA DUN				DUM DUM							
	2330				0830				1730				0530				1730				0530*			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	0.7	0.5	025	28	0.5	0.3	094	28	1.9	1.7	258	28	1.3	1.2	008	28	2.3	1.5	260	28	0.9	0.2	320
0.15 a.g.	28	2.8	1.6	332	10	2.0	1.0	172	2	5.7	5.6	238	24	1.5	0.9	050	26	3.5	2.3	268	28	5.6	2.1	321
0.3 a. m. s. l	28	3.0	1.8	327																	28	5.5	2.2	327
0.6 "	28	3.0	1.7	323																	28	4.2	3.9	311
0.9 "	28	2.6	0.7	010									24	1.4	0.9	059	26	4.1	2.4	269	28	6.2	4.5	304
1.5 "	28	4.4	2.9	083									24	2.7	1.9	311	26	3.0	0.9	321	28	8.7	8.1	295
2.1 "	25	7.2	6.2	062									24	4.3	3.0	305	25	4.2	1.0	317	28	12.0	11.3	285
3.0 "	18	7.3	6.8	062	10	5.1	3.1	250	1	1.5	1.5	030	23	6.0	5.1	298	23	5.6	4.0	301	28	16.5	15.6	286
3.6 "	14	5.3	3.9	072	6	10.9	7.8	258	1	2.6	2.6	015	22	8.3	7.2	293	23	7.3	5.0	300	28	18.3	17.5	286
4.5 "	4	4.0	1.3	068	2	20.3	19.3	275	1	3.1	3.1	325	14	12.1	11.8	287	21	11.8	10.7	291	28	20.3	19.6	286
5.4 "					2	20.8	20.7	285	1	25.7	25.7	275	7	21.7	20.3	278	16	17.2	16.8	292	28	27.6	27.1	284
6.0 "					1	11.8	11.8	290					1	19.0	19.0	280	12	22.2	22.1	291	28	27.7	27.2	284
7.2 "					1	14.9	14.9	290									6	29.4	28.6	290	27	36.6	36.1	284
9.0 "																	2	28.6	28.1	288	16	48.5	47.6	276

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level.

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	DUM DUM												GADAG															
	1130				1730*				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.0	0.8	314	28	0.7	0.3	247	28	1.4	0.5	196	28	2.0	0.5	325	28	1.4	0.5	041	28	3.5	0.8	259				
0.15 a.g.	28	3.4	2.0	327	28	4.1	1.7	275	28	5.5	1.5	220	28	5.6	2.0	016	28	3.3	0.8	018	28	7.9	1.0	277				
0.5 a.m.s.l.	28	3.5	1.9	320	28	4.2	2.4	275	28	5.5	1.7	243																
0.6 "	28	4.1	3.1	305	28	4.3	3.1	279	28	4.1	2.6	279																
0.9 "	28	5.3	4.4	295	28	4.9	4.1	282	28	4.7	4.0	289	28	6.1	2.1	031	28	4.0	1.0	022	28	7.6	0.2	335				
1.5 "	27	9.7	9.2	289	28	6.9	6.6	290	28	8.1	7.7	292	28	6.3	1.3	065	28	3.9	1.2	018	28	5.4	2.4	088				
2.1 "	26	12.3	9.3	287	28	11.3	11.0	289	27	11.1	10.5	290	28	4.4	1.4	058	28	4.0	1.8	041	28	4.2	2.9	077				
3.0 "	23	15.4	14.7	288	28	16.0	15.6	288	15	11.1	10.6	290	28	5.4	2.2	013	28	4.4	2.0	040	28	4.9	3.1	037				
3.6 "	22	19.4	18.7	288	28	20.0	19.4	286	1	12.4	12.4	280	28	6.0	2.3	337	28	5.5	2.8	007	27	6.0	3.3	014				
4.5 "	20	21.7	20.9	288	27	21.7	21.2	288					25	6.9	3.3	348	28	7.4	3.8	340	23	7.3	3.4	358				
5.4 "	13	23.4	22.8	283	27	24.9	24.5	287					15	5.9	3.3	333	28	7.1	4.5	319	14	7.0	3.6	313				
6.0 "	11	26.9	26.2	278	27	28.2	27.5	285					8	4.4	1.9	272	27	6.7	3.9	309	5	6.4	4.7	295				
7.2 "	8	30.1	29.9	279	26	33.9	33.0	280					3	6.8	3.9	279	23	7.8	4.8	276	2	7.7	7.7	270				
9.0 "	2	23.7	23.2	298	21	47.8	46.3	282									21	9.3	8.1	290								

Station	GANNAVARAM												GAUHATI															
	0530				1730				2330				0530*				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	1.1	0.9	085	28	2.8	2.3	145	28	1.2	0.9	128	28	0.7	0.4	083	28	2.2	0.7	018	28	1.9	0.6	066				
0.15 a.g.	28	4.4	2.9	145	27	3.9	3.1	152	28	6.0	5.3	160	28	3.5	1.2	086	28	3.0	1.6	005	28	4.9	1.3	035				
0.3 a.m.s.l.	28	5.0	3.9	164	27	4.1	3.4	153	28	6.3	5.7	159	28	3.5	0.6	109	28	3.5	1.2	356	28	4.6	1.2	022				
0.6 "	28	5.9	4.9	171	27	3.7	2.8	150	28	5.1	4.4	152	28	4.3	1.1	239	28	3.8	0.7	295	28	4.2	0.9	260				
0.9 "	24	5.6	4.3	157	27	2.9	1.2	161	28	3.6	2.3	141	28	5.8	2.8	260	28	4.7	2.5	259	28	4.8	2.6	260				
1.5 "	20	4.2	0.9	096	26	3.3	1.5	328	27	3.6	1.5	009	28	7.1	5.0	263	28	6.4	5.0	244	28	5.3	5.2	258				
2.1 "	18	6.1	3.7	347	25	5.6	4.3	332	27	5.8	4.0	343	28	8.4	7.6	265	26	7.1	6.7	244	28	9.2	8.2	248				
3.0 "	17	6.5	4.9	329	20	7.5	6.3	335	25	6.2	5.3	328	28	13.4	12.8	273	21	11.1	10.2	263	28	13.1	12.9	264				
3.6 "	12	5.3	4.1	333	19	6.0	4.7	321	22	7.2	5.9	314	28	19.8	18.8	275	18	18.0	17.1	272	28	17.8	17.5	264				
4.5 "	9	6.1	5.1	314	18	8.4	6.7	304	13	8.3	7.4	310	28	28.9	28.1	277	12	25.2	24.5	277	27	25.1	24.2	274				
5.4 "	7	8.1	7.2	320	16	8.0	7.3	300	6	8.7	8.1	305	27	30.3	29.5	281	6	29.1	27.3	282	27	30.0	27.2	276				
6.0 "	6	9.8	8.9	310	16	10.4	9.6	294	4	12.0	11.5	286	26	31.6	31.2	282	3	25.6	24.9	277	27	33.5	32.6	274				
7.2 "	2	14.4	14.4	301	15	12.4	11.2	288	1	16.0	16.0	290	24	38.5	38.1	288	1	23.2	23.2	290	26	29.4	28.8	284				
9.0 "					9	13.6	13.0	281					6	43.0	42.9	287					4	35.4	35.3	285				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	GAUHATI				GAYA								GOPALPUR											
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	1.9	0.6	129	28	1.8	1.1	212	28	3.4	3.1	313	28	1.2	0.6	275	28	1.5	1.0	305	28	6.8	5.7	178
0.15 a. g.	27	4.1	1.0	159	28	4.6	2.1	277	28	5.8	5.1	311	28	5.7	3.5	315	28	4.0	1.7	259	28	7.1	5.7	177
0.3 a. m. s. l.	27	4.2	0.8	179	28	4.4	2.1	278	28	6.0	5.2	310	28	5.7	3.5	320	28	4.0	1.7	237	28	7.3	5.7	178
0.6 "	27	4.5	0.8	223	28	5.3	3.9	297	28	6.5	6.1	297	28	6.3	4.9	304	28	4.0	1.8	251	28	5.1	3.7	185
0.9 "	27	5.1	3.0	259	28	6.6	5.9	290	28	7.6	7.2	285	28	7.6	6.1	287	28	3.8	2.0	266	28	3.5	2.1	235
1.5 "	25	5.6	4.8	257	28	9.3	9.0	285	28	10.3	9.9	276	28	9.8	8.9	285	28	5.5	4.9	292	27	6.1	5.3	301
2.1 "	22	6.8	5.8	250	26	11.4	11.0	289	27	13.1	12.4	279	22	10.0	9.2	287	27	8.1	5.1	301	27	8.6	7.9	301
3.0 "	10	8.4	6.8	251	16	15.0	14.1	292	27	15.1	14.9	288	15	11.8	10.6	297	23	10.1	9.4	300	27	11.4	10.7	307
3.6 "	3	7.9	7.1	271	8	20.5	17.1	295	23	19.1	18.4	288	5	10.8	6.7	304	13	10.4	10.0	298	25	12.4	11.9	299
4.5 "	1	21.1	21.1	275	1	18.5	18.5	270	13	21.5	20.5	286					4	8.0	7.7	278	25	12.8	12.0	297
5.4 "	1	22.1	22.1	270					3	28.7	25.9	279					3	11.5	11.2	284	24	15.7	14.8	292
6.0 "									2	26.7	26.7	299					1	15.4	15.4	270	24	18.0	17.1	292
7.2 "									1	28.8	28.8	300									20	21.7	21.4	287
9.0 "																					14	26.3	25.7	286

Station	GOPALPUR				GORAKHPUR								GWALIOR											
	2330				0530				1730				0530				1730				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	5.0	4.0	208	28	2.1	1.1	277	28	2.5	1.7	251	28	1.0	0.3	302	28	2.3	1.2	346	28	0.5	0.1	188
0.15 a. g.	28	6.3	4.1	192	28	7.5	5.3	300	28	5.5	4.1	265	28	5.6	3.1	024	28	4.6	2.5	349	28	5.0	2.5	059
0.3 a. m. s. l.	28	5.9	3.6	195	28	8.3	6.1	300	28	6.2	4.9	265	28	4.3	2.1	021	28	4.1	2.3	348	28	4.1	2.1	061
0.6 "	28	5.0	3.0	214	28	8.8	6.9	304	28	7.4	5.9	270	27	5.7	2.3	356	28	5.0	2.7	323	28	5.3	0.9	024
0.9 "	26	3.6	2.0	264	28	8.7	7.1	298	28	7.7	6.3	272	27	5.9	3.7	289	28	5.0	3.1	293	28	5.7	2.8	268
1.5 "	20	5.3	4.5	300	27	10.5	9.5	293	28	10.2	8.5	289	27	8.4	7.5	290	28	6.8	5.8	277	28	8.0	6.7	270
2.1 "	18	8.4	7.0	301	23	11.7	11.3	289	26	12.4	12.3	292	27	11.1	10.5	282	28	10.0	9.2	280	28	11.0	9.6	270
3.0 "	16	9.7	8.4	301	14	13.5	13.1	287	25	16.7	16.5	290	19	13.8	13.1	280	26	15.3	14.3	281	18	12.5	11.7	275
3.6 "	5	10.4	10.0	301	6	14.1	12.7	274	24	18.7	18.4	291	10	13.2	12.5	280	25	18.8	18.0	283	9	11.7	11.2	282
4.5 "					2	13.1	12.6	258	23	23.5	23.3	289	3	14.1	13.8	291	25	23.5	23.5	283	1	15.4	15.4	260
5.4 "					1	5.1	5.1	310	16	28.3	27.8	286	1	16.0	16.0	280	18	27.8	27.2	281				
6.0 "									11	31.1	30.1	284	1	18.5	18.5	285	10	26.7	26.2	281				
7.2 "									4	37.3	36.3	281					2	21.6	20.3	288				
9.0 "																	1	28.8	28.8	290				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	IMPHAL												JABALPUR																			
	0530				1730				2330				0530				1730				2330											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	0.5	0.2	205	28	2.5	2.2	241	28	1.0	0.7	241	28	1.0	0.5	171	28	1.7	0.9	299	28	0.9	0.4	134	28	6.0	1.0	036				
0.15 a. g.	24	1.5	0.9	177	27	4.7	4.4	244	26	2.5	1.5	228	28	4.6	1.3	131	28	4.1	2.7	316												
0.3 a. m. s.l.																																
0.6 "													28	5.3	1.2	130	28	4.1	2.7	316	28	6.5	1.4	020								
0.9 "	24	1.4	0.8	179	27	4.4	4.0	240	26	2.2	1.2	223	28	6.1	0.9	329	28	4.4	3.1	299	28	5.9	1.4	327								
1.5 "	23	4.5	3.4	256	27	6.2	6.0	251	26	5.5	4.9	246	27	8.5	6.8	282	28	5.7	4.7	287	28	6.2	5.4	277								
2.1 "	22	9.0	7.6	265	26	9.9	9.4	246	23	8.6	8.1	249	26	11.1	10.3	285	28	8.0	7.4	280	27	9.4	8.9	273								
3.0 "	17	13.5	12.8	276	19	11.2	10.3	260	16	11.1	10.6	265	26	15.2	14.1	284	28	13.9	13.2	280	26	14.1	13.2	282								
3.6 "	15	17.0	16.5	278	11	12.9	12.1	266	13	13.5	12.8	274	19	15.2	14.4	285	26	16.8	15.9	286	13	14.7	13.4	279								
4.5 "	10	22.5	22.1	273					5	12.6	11.3	270	10	16.1	15.3	277	24	20.1	19.4	290	4	14.1	13.9	297								
5.4 "	4	20.8	21.5	280					1	9.8	9.8	320	3	14.4	14.2	294	17	23.6	22.9	284	1	19.6	19.6	285								
6.0 "	2	18.5	18.5	277					1	16.0	16.0	320	1	11.8	11.8	280	14	24.0	23.2	285												
7.2 "																	7	30.0	29.2	295												
9.0 "																	1	49.9	49.9	295												

Station	JAGDALPUR												JAIPUR												JAMSHEDPUR			
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	0.3	0.1	198	28	1.8	1.1	258	28	0.4	0.3	167	28	2.1	1.4	046	28	2.9	1.9	302	28	0.9	0.6	323				
0.15 a. g.	28	5.5	1.8	207	28	4.6	2.9	267	28	4.8	1.4	273	28	5.3	2.3	046	28	4.5	2.9	285	28	2.7	0.7	337				
0.3 a. m. s.l.																					28	2.7	0.6	346				
0.6 "	28	3.3	1.0	215	28	3.3	2.2	259	28	2.9	0.9	247	28	5.5	1.2	029	28	4.6	2.9	283	28	4.8	1.7	314				
0.9 "	28	5.2	2.0	206	28	4.6	3.3	269	28	5.1	2.0	291	28	6.2	2.8	275	28	5.0	3.5	280	28	5.5	3.2	293				
1.5 "	27	4.8	3.3	279	28	3.9	3.2	276	28	3.8	2.8	293	28	8.1	6.4	276	28	5.4	4.1	282	28	7.8	7.5	275				
2.1 "	27	7.8	6.8	297	26	4.5	4.0	293	28	5.7	4.8	287	26	10.9	9.8	280	27	8.0	1.9	282	28	12.1	11.7	284				
3.0 "	25	10.3	9.5	305	22	8.6	7.6	302	28	8.9	7.6	303	22	13.7	12.7	284	25	13.5	12.5	283	12	13.7	13.1	293				
3.6 "	15	9.6	8.6	303	20	11.1	10.4	301	13	11.0	10.2	310	12	15.4	14.3	284	24	17.6	16.7	285	4	12.6	10.9	296				
4.5 "	6	11.6	11.4	293	17	12.9	11.7	302	5	10.5	9.3	307	3	19.0	18.9	281	19	21.9	21.2	283	1	21.1	21.1	285				
5.4 "	2	10.8	10.8	306	13	15.8	14.9	304	2	12.6	12.6	303					8	25.0	24.6	284								
6.0 "					9	17.1	15.6	296									6	29.3	29.1	284								
7.2 "					6	21.0	20.6	303									1	38.1	38.1	275								
9.0 "					3	24.0	23.5	284																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	JAMSHEDPUR				JHARSUGUDA								JODHPUR											
	1730				0530				1730				2330				0530*				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	2.0	1.2	326	26	1.6	1.3	037	28	2.9	2.5	263	28	1.1	0.7	314	27	2.4	1.0	033	28	3.1	0.3	015
0.15 a. g.	28	3.4	2.3	328	26	5.2	2.3	067	28	4.8	4.0	269	26	4.9	1.9	282	27	3.6	0.8	009	28	4.0	0.6	261
0.3 a. m. s. l.	28	3.4	2.2	325	26	4.5	2.7	050	28	4.7	4.9	269	26	4.1	1.5	290	27	4.1	1.3	357	28	3.8	0.5	307
0.6 "	28	4.5	3.0	299	26	5.7	1.6	346	28	4.6	4.1	274	26	5.2	3.3	283	27	5.3	1.3	328	28	4.3	0.6	274
0.9 "	28	5.2	3.9	280	26	5.7	3.7	293	28	5.1	4.6	273	26	5.4	4.4	274	27	6.2	3.0	270	28	5.3	1.9	257
1.5 "	28	6.7	6.2	266	26	7.9	7.3	287	28	6.4	5.9	284	26	6.8	5.8	274	27	8.0	6.9	267	28	7.6	6.2	265
2.1 "	28	10.1	9.4	277	25	11.1	10.7	291	27	9.9	8.8	292	26	9.7	8.3	280	26	10.8	9.7	262	27	10.1	9.2	266
3.0 "	27	16.3	15.6	285	15	11.2	10.9	292	27	15.1	13.7	293	21	13.4	12.3	300	25	15.2	14.1	274	25	13.5	12.7	270
3.6 "	18	18.9	18.1	287	8	11.1	18.8	283	26	18.2	17.7	293	13	14.0	12.6	296	23	18.9	18.0	272	25	17.0	16.5	276
4.5 "	7	20.3	20.2	272	2	13.9	13.9	285	20	20.0	19.4	294	2	13.4	13.4	302	23	24.5	23.6	270	17	19.5	19.1	278
5.4 "					1	8.7	8.7	290	9	23.7	23.4	294	2	20.3	20.3	302	21	27.1	27.1	272	14	24.2	23.9	278
6.0 "																	21	30.4	29.6	272	9	23.4	23.0	278
7.2 "																	20	37.6	37.1	275	1	25.7	25.7	294
9.0 "																	9	40.5	40.1	273				

Station	JODHPUR				MADRAS																			
	1730*				2330				0530*				1130				1730*				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	3.0	1.7	266	28	2.3	1.3	020	28	2.5	1.6	152	28	2.6	1.5	130	28	4.3	3.9	113	28	2.4	2.0	115
0.15 a. g.	28	3.2	1.9	265	28	6.6	2.0	008	28	5.3	4.5	144	28	3.1	2.0	134	28	6.5	6.0	120	28	5.3	4.5	128
0.3 a. m. s. l.	28	3.6	2.0	272	28	5.3	2.0	007	28	5.3	4.4	144	28	3.4	2.4	137	28	6.3	5.8	120	28	5.6	4.9	126
0.6 "	28	4.6	2.2	280	28	6.4	1.3	325	28	4.9	4.1	140	28	3.8	2.8	133	28	5.1	4.2	115	28	5.3	4.5	118
0.9 "	28	4.6	3.0	262	28	5.9	2.5	255	28	4.7	4.0	129	28	4.1	3.0	119	28	4.5	3.3	096	27	5.3	4.5	100
1.5 "	28	5.7	4.4	261	27	6.3	4.9	248	28	5.1	4.0	078	26	5.1	4.5	071	28	4.8	4.2	061	27	5.3	4.7	064
2.1 "	28	8.7	8.0	267	25	8.5	7.1	260	28	5.8	4.4	043	22	6.0	4.9	032	28	5.9	4.9	035	27	6.5	6.3	043
3.0 "	28	15.4	12.8	271	17	10.7	9.5	271	28	6.2	3.9	017	19	6.3	3.3	036	28	5.8	3.5	024	27	6.1	4.0	027
3.6 "	28	18.0	17.6	273	4	11.5	11.4	281	28	6.5	3.1	015	17	6.7	3.2	054	28	6.0	3.5	020	19	6.0	3.8	021
4.5 "	27	22.7	22.3	273					28	7.1	2.5	353	15	8.3	4.0	067	28	6.3	3.0	005	5	7.6	2.1	018
5.4 "	27	27.7	27.2	272					28	7.0	2.6	351	16	7.3	4.2	038	28	6.8	3.3	353				
6.0 "	27	31.6	31.0	273					28	6.8	2.4	347	16	6.2	3.9	038	28	6.6	2.9	350				
7.2 "	23	37.6	37.2	272					28	6.6	3.3	344	14	5.6	3.7	019	28	5.9	2.1	335				
9.0 "	10	44.4	39.6	275					27	7.3	4.0	323	13	6.9	3.8	010	27	7.2	3.9	320				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	MANGALORE												MINICOY											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	3.0	2.6	069	28	4.9	4.5	302	28	2.4	1.7	011	28	1.5	1.2	023	28	2.2	1.9	012	28	1.5	1.2	014
0.15 a.g.	28	4.0	2.7	029	28	5.6	5.3	295	28	4.3	3.7	336	28	3.3	2.6	021	28	4.6	4.1	005	28	3.6	2.8	011
0.3 a.m.s.l.	28	3.7	2.3	006	28	5.9	5.4	295	28	4.5	4.1	331	28	3.4	2.8	029	28	4.7	4.3	010	28	3.7	2.8	014
0.6 "	28	3.6	2.0	007	28	4.4	3.8	296	28	4.0	3.7	329	28	3.3	2.6	053	28	4.6	4.2	019	28	3.7	2.8	032
0.9 "	28	4.0	1.6	039	28	3.3	1.9	355	26	3.2	2.8	334	27	4.2	3.4	080	28	4.6	4.0	045	28	4.4	3.7	060
1.5 "	27	5.3	2.7	105	28	4.5	3.5	063	25	4.1	2.3	040	27	6.2	5.7	083	25	5.9	5.1	067	28	6.6	6.2	073
2.1 "	24	6.3	4.3	092	28	8.0	6.9	075	23	6.9	6.0	080	26	5.9	5.4	079	25	5.7	4.9	065	27	7.1	6.1	079
3.0 "	22	5.7	3.8	074	27	7.2	5.0	075	20	8.0	7.2	082	24	5.6	3.9	088	21	5.0	3.7	087	24	6.5	5.7	080
3.6 "	9	4.6	3.3	059	27	6.7	2.0	042	17	6.5	4.2	070	20	5.5	2.9	074	20	6.7	4.5	072	20	6.0	5.0	083
4.5 "					26	6.8	2.7	034	8	5.9	3.5	060	11	4.2	2.1	073	15	7.5	5.0	064	13	6.2	3.4	073
5.4 "					24	5.7	2.1	042	4	6.2	1.0	019	1	3.6	3.6	070	14	8.3	6.6	082	2	10.3	6.4	062
6.0 "					24	6.6	1.7	017	1	6.2	6.2	050					14	10.0	8.6	075				
7.2 "					21	5.7	1.7	011									10	12.3	11.9	086				
9.0 "					12	6.5	4.8	343									8	10.5	9.8	072				

Station	MOHANBARI												NAGPUR											
	0530				1730				2330				0530*				1130				1730*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	0.8	0.6	034	28	1.1	1.0	048	28	1.0	0.6	046	28	1.4	1.1	334	28	3.2	0.9	277	28	2.7	1.5	293
0.15 a.g.	24	5.3	4.8	059	25	4.1	3.3	050	24	3.7	3.0	042	28	6.3	2.8	037	28	4.0	1.3	259	28	6.1	4.0	293
0.3 a.m.s.l.	24	5.3	4.9	060	25	4.1	3.4	052	24	3.6	2.7	047												
0.6 "	24	3.8	3.1	063	25	3.5	3.0	068	24	3.4	1.9	068	28	5.3	1.8	026	28	4.3	1.1	235	28	5.1	3.4	287
0.9 "	23	3.0	1.6	065	25	2.9	2.1	076	23	2.6	1.6	083	28	5.0	0.9	310	28	4.5	1.9	243	28	3.3	2.0	270
1.5 "	19	2.9	0.7	051	22	2.9	0.9	223	18	3.3	1.5	154	28	6.3	4.8	271	28	7.1	5.0	271	28	4.3	3.7	261
2.1 "	18	3.4	0.4	056	22	5.1	4.7	225	17	3.6	1.7	221	28	8.8	8.0	271	28	9.8	8.6	278	28	6.1	5.6	268
3.0 "	12	2.8	0.2	359	15	4.4	3.4	219	13	4.7	3.9	230	28	11.8	11.0	277	28	12.1	11.0	286	28	10.0	8.9	279
3.6 "	9	4.7	2.9	271	6	4.0	2.1	176	4	4.0	3.7	214	28	12.0	11.8	279	27	11.9	11.3	288	28	12.4	11.4	286
4.5 "	2	12.4	9.8	283	2	5.4	2.2	258					28	14.3	13.7	289	27	15.5	14.5	288	28	15.0	14.5	288
5.4 "												28	16.3	16.0	284	27	18.1	17.2	282	28	17.2	16.7	285	
6.0 "												28	18.9	18.5	283	22	19.4	18.7	287	28	19.7	19.1	282	
7.2 "												28	23.8	23.1	282	14	22.8	22.3	283	28	22.5	21.7	284	
9.0 "												25	29.5	28.7	279	5	28.5	27.9	290	28	27.8	26.9	276	

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	NAGPUR				NANPARA				NEW DELHI															
	2330				0530				1730				0530*			1130			1730*					
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface	28	2.7	1.4	023	28	2.3	1.3	280	28	2.0	1.6	268	28	2.1	1.2	337	28	5.5	2.7	313	28	4.5	2.4	328
0.15 a. g.	28	6.4	2.9	041	27	7.8	5.2	305	28	6.4	4.9	283	28	7.1	3.8	337	28	5.8	2.5	298	28	6.1	3.5	315
0.3 a. m. s. l.					27	8.0	5.6	310	28	6.5	5.0	282	28	6.6	4.2	335	28	5.9	2.7	302	28	5.9	3.1	310
0.6 "	28	6.4	1.9	033	26	9.7	8.2	305	28	7.2	5.7	284	28	7.8	4.6	322	28	6.7	3.4	296	28	6.9	3.6	304
0.9 "	28	5.7	1.4	303	26	9.3	8.5	303	28	7.9	7.2	290	28	8.4	5.2	307	28	7.7	4.4	295	28	6.9	4.4	295
1.5 "	28	5.1	4.0	265	24	9.5	8.7	300	27	9.8	7.9	298	28	9.4	7.1	288	28	8.5	5.8	286	28	7.6	5.5	293
2.1 "	28	7.2	6.5	267	15	8.8	8.8	302	23	9.4	8.3	297	28	10.5	8.5	286	28	9.6	8.0	282	28	9.3	7.4	287
3.0 "	26	10.6	9.8	283	10	10.2	9.9	301	19	13.3	12.5	296	28	12.9	11.7	283	28	12.5	10.8	280	28	13.5	12.3	284
3.6 "	22	11.1	10.2	289	5	14.6	14.3	295	17	17.7	17.0	292	28	16.0	15.2	284	27	14.9	13.7	279	28	15.7	14.6	281
4.5 "	7	12.6	12.0	284					4	2.0	2.0	283	27	21.8	21.0	285	24	20.2	19.4	279	28	21.9	21.2	280
5.4 "	2	13.1	13.1	288									25	27.1	26.7	282	22	26.4	25.7	278	26	26.6	25.8	282
6.0 "	2	15.2	15.2	280									23	31.7	31.1	281	22	29.8	29.1	280	24	28.7	28.2	280
7.2 "													20	39.0	38.1	283	13	34.5	32.8	282	22	36.3	36.0	283
9.0 "													13	59.7	49.8	282	2	30.3	30.1	278	12	51.3	50.6	282

Station	NEW DELHI				POONA				PORT BLAIR															
	2330				0530				1730				2330			0530*			1130					
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	2.5	1.4	330	28	0.6	0.6	225	28	2.0	1.3	262	28	0.5	0.4	274	28	0.8	0.7	045	28	2.6	2.5	046
0.15 a. g.	28	8.0	4.1	339	28	2.8	1.3	305	28	3.7	2.9	289	28	4.0	3.5	292	28	4.5	4.3	036	28	2.3	2.2	046
0.3 a. m. s. l.	28	6.7	3.4	338													28	4.5	4.3	040	28	2.5	2.3	046
0.6 "	28	8.2	4.4	321	28	1.7	1.5	229	28	3.0	2.1	289	28	1.7	1.9	263	28	4.4	3.9	052	28	3.0	2.6	058
0.9 "	28	8.0	4.7	301	28	4.3	2.1	336	28	4.1	3.2	287	28	4.9	4.1	306	28	4.1	3.3	072	28	2.9	2.4	076
1.5 "	28	8.3	6.2	275	28	5.6	1.5	307	28	4.3	3.3	282	28	4.7	2.7	299	28	4.6	3.5	113	28	2.9	2.4	112
2.1 "	28	9.1	7.7	276	28	4.5	2.2	231	28	4.0	2.9	282	28	4.3	0.5	250	28	4.0	2.3	117	27	2.6	1.2	118
3.0 "	22	11.7	11.1	281	28	5.7	3.8	280	28	5.0	3.5	305	28	4.1	1.3	290	28	4.3	1.5	163	27	3.0	0.6	114
3.6 "	5	11.4	10.6	267	27	6.5	5.2	299	28	6.2	4.9	313	26	5.5	4.3	310	28	4.3	0.8	247	27	3.3	0.5	040
4.5 "					9	8.6	7.7	289	28	7.8	6.8	295	8	3.3	8.5	284	26	5.3	1.5	300	27	4.0	1.5	016
5.4 "									28	11.1	10.3	281	2	15.4	15.3	275	26	6.1	1.9	338	26	4.5	2.3	005
6.0 "									28	12.6	12.2	284	1	11.8	11.8	260	26	6.7	2.8	337	26	4.5	2.3	002
7.2 "									21	14.9	14.4	279					25	6.9	3.2	350	26	4.7	2.1	347
9.0 "									6	20.1	19.0	274					22	6.0	1.6	284	19	5.1	2.2	315

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

February 1959 (Magha 12—Phalgun 9, 1880 Saka)

Station	PORT BLAIR				RAIPUR				RAXAUL															
	1730*				2330				0530				1730				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	2.4	2.4	046	28	1.8	1.6	034	28	1.5	0.5	036	28	2.2	1.6	281	28	2.4	0.8	358	28	0.5	0.1	224
0.15 a.g.	28	4.6	4.4	053	28	3.0	2.9	035	28	5.7	2.1	058	28	4.2	3.4	274	28	6.0	1.9	329	27	4.7	2.2	280
0.3 a.m.s.l.	28	4.3	4.1	050	28	3.1	2.9	037													27	4.7	2.4	283
0.6 "	28	3.8	3.0	044	28	3.0	2.8	047	28	6.2	1.5	036	28	4.8	4.1	273	28	5.8	1.9	302	27	5.8	4.0	287
0.9 "	28	3.1	2.3	070	26	2.5	2.1	068	28	5.6	2.1	287	28	4.7	4.1	273	28	5.1	2.5	270	27	6.0	4.4	284
1.5 "	28	3.3	2.5	099	24	2.2	1.5	117	27	7.7	6.1	278	28	5.6	5.0	272	28	6.3	5.2	271	27	6.0	4.7	281
2.1 "	28	3.4	2.0	125	22	2.1	0.8	116	27	10.7	9.8	287	28	8.5	7.7	280	27	8.7	7.9	284	24	8.3	7.7	284
3.0 "	27	3.4	0.8	266	22	2.4	0.5	088	25	12.5	11.3	286	27	12.6	11.6	289	26	11.8	10.8	290	19	14.1	13.8	286
3.6 "	27	4.0	1.3	304	22	3.1	0.2	317	11	12.1	11.5	290	24	14.0	13.3	292	19	12.4	11.5	292	6	21.2	21.0	284
4.5 "	27	4.9	1.6	316	16	4.0	1.0	341	4	16.6	15.4	287	24	16.8	16.3	290	4	12.5	12.4	291				
5.4 "	27	5.8	2.3	345	8	3.5	1.7	011	1	20.6	20.6	270	22	18.7	18.0	288	1	18.5	18.5	295				
6.0 "	27	6.8	2.3	002	6	4.0	1.4	357					13	20.4	19.8	281	1	22.7	22.7	295				
7.2 "	24	6.2	2.6	335									4	27.6	27.6	306								
9.0 "	18	6.7	3.4	304									1	33.4	33.4	305								

Station	RAXAUL				SANTA CRUZ				TEZPUR															
	1730				0530*				1130				1730*				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	28	0.9	0.8	244	28	1.6	1.2	320	28	2.3	1.4	334	28	5.1	4.7	320	28	1.7	1.5	359	28	1.2	1.0	070
0.15 a.g.	28	5.0	4.2	257	28	6.1	4.7	023	28	2.8	1.7	005	28	8.7	8.4	330	28	4.6	3.9	347	27	4.6	3.9	086
0.3 a.m.s.l.	28	5.1	4.3	256	28	5.6	4.3	026	28	2.9	1.9	024	28	7.0	6.6	323	28	4.8	4.0	348	27	4.5	3.8	087
0.6 "	28	5.5	4.6	262	28	4.5	3.1	015	28	3.7	1.5	017	28	4.8	4.3	327	28	4.5	3.8	350	27	3.9	2.2	101
0.9 "	28	5.8	4.7	267	28	5.2	2.9	359	28	4.6	1.9	003	28	4.8	3.0	315	28	4.4	3.1	333	27	3.8	0.8	151
1.5 "	28	6.0	4.4	277	28	5.6	2.5	316	26	5.4	2.5	304	28	4.9	1.9	285	28	4.9	2.1	297	22	4.6	2.2	254
2.1 "	26	7.7	6.4	291	28	6.0	2.8	280	26	5.9	3.9	269	28	5.7	3.5	270	28	5.7	3.2	270	19	4.4	3.9	260
3.0 "	19	11.1	10.8	283	28	6.5	4.8	283	26	6.9	5.5	285	28	6.2	4.3	264	28	5.8	3.8	287	7	6.2	5.6	270
3.6 "	13	13.6	13.4	286	28	7.5	6.8	296	26	7.2	6.2	295	28	7.4	6.2	301	25	6.3	5.2	297	3	7.1	6.5	287
4.5 "	2	12.9	12.8	283	28	10.7	9.4	286	26	9.5	8.9	291	28	10.2	9.1	297	17	8.3	7.7	285	3	11.3	11.2	288
5.4 "					28	13.0	12.6	281	25	11.2	10.6	281	28	12.2	11.6	280	9	9.6	9.2	278	1	8.2	8.2	315
6.0 "					28	15.9	15.4	280	24	13.9	13.5	280	28	14.3	13.8	281	8	11.4	10.9	281	1	9.8	9.8	300
7.2 "					28	19.6	19.2	282	22	17.1	16.4	281	28	19.2	18.6	278					1	13.4	13.4	275
9.0 "					22	23.1	22.0	275	17	21.7	21.0	276	26	24.7	23.5	280								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

February 1959 (Magha 12— Phalguna 9, 1880 Saka)

Station	TEZPUR								TIRUCHIRAPALLI												TRIVANDRUM							
	1730				2330				0530				1730				2330				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	1.4	1.0	074	28	1.6	1.0	064	28	0.9	0.5	018	28	3.8	3.7	088	28	3.3	2.9	098	28	1.7	1.2	013				
0.15 a. g.	28	5.3	3.4	068	26	5.8	3.5	035	27	4.2	2.5	067	28	5.1	5.0	083	28	6.6	6.0	098	28	2.6	1.7	004				
0.3 a. m. s. l.	28	5.2	3.3	068	26	6.0	3.8	085	27	4.3	2.9	075	28	5.2	5.0	084	28	6.9	6.2	096	28	2.8	1.6	359				
0.6 "	28	4.0	1.3	060	26	4.7	2.1	105	27	4.8	3.2	091	28	5.3	4.9	085	28	6.7	6.2	090	28	2.7	1.1	040				
0.9 "	28	3.6	0.9	253	26	3.8	0.9	215	27	5.7	4.0	088	28	5.4	4.7	083	28	6.5	5.8	076	28	2.8	1.9	042				
1.5 "	25	5.0	4.2	244	23	4.9	4.3	257	27	6.2	5.1	066	28	4.9	4.1	057	28	6.6	6.1	057	28	5.3	4.4	058				
2.1 "	22	6.4	5.5	241	16	4.4	4.0	257	26	6.1	5.4	049	28	6.2	5.4	035	27	7.4	6.6	042	28	5.6	4.3	058				
3.0 "	14	6.8	6.1	266	11	4.6	3.5	204	25	5.9	3.7	065	27	6.5	3.9	032	27	5.9	3.7	038	28	5.4	3.2	074				
3.6 "	3	11.3	9.7	293	6	7.5	6.2	275	25	6.4	3.9	082	26	7.1	3.5	056	21	6.6	4.2	072	28	6.1	4.0	079				
4.5 "					4	14.4	13.3	275	24	6.4	3.6	076	26	7.3	4.2	071	15	7.5	6.2	075	28	7.6	5.7	086				
5.4 "					3	23.5	22.7	268	17	6.0	4.0	062	26	8.0	5.2	068	7	7.9	3.7	055	28	9.2	7.0	086				
6.0 "					2	11.3	10.5	296	13	4.7	3.4	062	24	7.6	5.2	068	7	6.3	3.3	055	28	9.9	8.6	082				
7.2 "					1	6.7	6.7	290	2	3.9	2.5	164	20	8.0	6.3	063					27	9.6	8.5	077				
9.0 "													14	7.9	6.4	063					21	8.3	6.4	067				

Station	TRIVANDRUM												UDAIPUR															
	1130				1730*				2330				0530				1730				2330							
Time in I. S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	1.7	1.0	278	28	2.7	2.5	252	28	1.3	0.8	354	28	0.3	0.2	260	28	1.9	1.0	259	28	0.4	0.4	270				
0.15 a. g.	28	2.8	1.9	262	28	3.0	2.8	256	28	2.9	1.9	303	28	2.7	1.0	296	28	4.4	2.3	257	28	2.9	1.4	283				
0.3 a. m. s. l.	28	2.6	1.3	254	28	4.1	3.8	250	28	3.0	2.1	296																
0.6 "	28	2.3	0.6	289	28	3.2	2.1	246	28	3.2	2.2	324																
0.9 "	27	2.8	1.1	057	28	3.4	1.3	014	28	3.6	2.5	025	28	4.2	1.6	283	28	4.7	2.4	249	28	4.0	1.9	275				
1.5 "	20	5.0	4.8	066	28	6.1	5.6	051	25	6.3	5.8	053	28	7.3	6.0	261	28	5.1	3.8	258	28	6.3	4.4	257				
2.1 "	16	6.4	5.5	066	28	6.6	6.2	047	21	6.9	6.6	055	28	10.4	9.5	267	28	7.7	7.1	268	28	9.3	8.0	268				
3.0 "	12	5.9	3.7	093	28	6.2	4.4	069	20	6.5	4.6	067	27	15.2	14.3	277	28	14.4	13.5	280	27	13.3	11.5	281				
3.6 "	12	7.5	5.3	105	28	6.8	4.9	069	13	4.7	3.3	078	16	14.4	14.1	282	28	16.7	16.4	281	17	14.6	13.5	284				
4.5 "	11	7.8	5.3	089	28	7.8	6.0	069	9	5.9	5.3	092	4	20.8	20.2	281	25	20.2	19.7	279	8	14.2	13.9	284				
5.4 "	10	8.6	6.2	094	28	8.5	6.9	079	5	5.9	5.3	091					23	25.2	24.8	281	1	18.0	18.0	275				
6.0 "	9	8.6	7.8	099	28	9.0	8.2	078	2	5.9	4.2	119					21	27.2	26.9	278	1	18.5	18.5	290				
7.2 "	6	11.2	10.7	096	28	10.1	9.0	078	1	8.7	8.7	105					11	26.8	26.5	279								
9.0 "	5	12.7	12.3	073	28	8.1	7.5	073									4	28.6	28.1	283								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Station	VENGURLA												VERAVAL															
	0530				1730				2330				0530*				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	0.5	0.5	354	28	2.4	2.2	262	28	0.5	0.5	346	28	4.5	4.0	351	28	4.1	2.3	325	28	6.0	5.6	280				
0.15 a. g.	28	5.1	3.7	011	28	4.9	4.3	280	28	4.9	4.8	349	28	8.2	4.5	350	28	3.5	2.1	328	28	7.6	6.7	285				
0.3 a. m. s. l.	28	6.0	4.6	001	28	4.8	3.9	282	28	6.3	6.2	349	28	6.7	5.0	350	28	3.4	2.2	346	28	6.0	5.1	292				
0.6 "	28	6.4	5.1	360	28	4.6	2.5	283	28	6.3	5.9	345	28	5.0	3.4	327	28	4.1	2.2	340	28	5.2	3.8	314				
0.9 "	28	6.6	5.5	354	28	4.1	2.0	318	28	5.9	5.1	337	28	5.3	3.4	297	28	4.5	2.4	325	28	5.5	4.1	324				
1.5 "	28	5.8	2.6	002	28	3.9	1.9	341	28	5.1	2.7	325	28	6.7	4.4	286	28	6.0	4.2	286	28	6.7	4.8	310				
2.1 "	28	5.0	1.1	140	28	4.9	1.9	038	28	5.7	1.9	067	28	8.0	6.1	281	28	8.0	5.3	284	28	8.6	6.6	291				
3.0 "	27	5.3	1.0	146	28	7.3	4.0	042	27	6.7	4.0	078	28	11.0	10.0	280	27	10.5	8.7	287	28	11.4	10.4	283				
3.6 "	16	6.8	2.1	344	28	7.0	3.5	014	10	5.5	3.8	063	28	12.6	11.4	280	26	12.2	10.8	284	28	12.4	11.8	285				
4.5 "	5	3.6	1.5	036	26	7.4	3.3	318					28	14.7	14.2	277	25	13.0	12.6	282	28	13.9	13.2	278				
5.1 "	3	2.9	0.8	141	26	6.5	4.4	292					28	16.8	16.0	275	25	15.8	15.1	273	28	17.5	16.9	272				
6.0 "	1	3.6	3.6	245	26	7.4	5.3	280					28	20.9	19.9	273	25	17.9	17.6	274	28	18.9	18.6	274				
7.2 "					14	7.4	5.5	292					28	24.2	22.2	274	23	20.7	20.0	279	28	25.4	24.7	273				
9.0 "					5	11.7	11.3	285					26	32.2	30.9	273	6	28.9	27.7	280	27	32.0	30.8	272				

Station	VERAVAL				VISAKHAPATNAM											
	2330				0530				1730				2330			
Time in I.S.T.																
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	28	3.9	3.3	534	28	0.7	0.4	266	28	4.1	2.7	188	28	1.0	0.7	224
0.15 a. g.	28	7.8	6.7	331	28	2.9	1.9	246	28	4.7	3.4	174	28	3.4	2.4	214
0.3 a. m. s. l.	28	7.6	6.2	335	28	3.3	2.5	241	28	4.8	3.4	174	28	4.2	3.2	219
0.6 "	28	5.4	4.1	332	28	3.5	2.3	242	28	4.4	2.9	195	28	4.5	3.4	233
0.9 "	28	4.5	2.5	334	27	2.9	1.7	262	28	3.7	2.4	220	27	4.1	3.2	254
1.5 "	28	5.1	3.0	293	25	4.1	2.5	318	27	4.7	3.5	280	27	4.3	3.7	299
2.1 "	28	6.9	5.3	285	24	6.0	4.8	323	27	7.3	6.1	307	24	5.9	5.2	320
3.0 "	28	9.7	8.9	287	24	7.2	6.1	320	26	8.5	7.2	315	21	6.9	6.2	322
3.6 "	11	8.6	7.7	285	20	7.3	5.9	310	24	9.0	7.2	320	14	8.3	7.6	310
4.5 "	4	12.2	11.7	276	12	7.6	6.6	302	22	12.1	10.4	305	6	8.6	8.1	289
5.4 "					4	9.9	9.4	290	18	14.1	12.6	294	3	7.4	6.9	298
6.0 "									15	15.6	14.1	301				
7.2 "									8	15.0	14.5	295				
9.0 "									1	25.2	25.2	240				

TABLE V.—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above mean sea level

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
	AMBALA					BEGUMPET					GOPALPUR					NAGPUR					1730 hrs.*			
	1730 hrs.					1730 hrs.					1730 hrs.					0530 hrs.*				10.5	9	6.1	4.3	251
10.5	4	53.6	53.5	285	10.5	13	17.4	16.6	284	10.5	6	23.9	23.3	289	10.5	22	29.2	28.6	277	12.0	6	7.1	4.0	251
12.0	1	41.0	41.0	280	12.0	8	13.1	12.6	285	12.0	5	24.8	24.5	277	12.0	18	29.2	28.6	274	14.1	3	7.6	5.5	277
	AMRITSAR					DUM DUM					JAGDALPUR					SANTA CRUZ					0530 hrs.*			
	0530 hrs.*					0530 hrs.*					1730 hrs.					1730 hrs.*				10.5	18	23.2	22.3	278
10.5	14	56.1	54.9	272	10.5	12	41.6	40.2	281	10.5	6	49.0	46.7	275	10.5	24	28.8	28.5	278	16.2	4	20.3	19.7	261
12.0	6	66.6	62.0	276	12.0	8	28.8	26.1	287	12.0	1	33.9	33.9	280	12.0	21	27.0	26.6	279	18.0	1	9.8	9.8	270
	ANANTAPUR					GADAG					MADRAS					NEW DELHI					1130 hrs.			
	0530 hrs.					1730 hrs.*					0530 hrs.*					0530 hrs.*				10.5	6	24.3	22.6	277
10.5	1	3.6	3.6	255	10.5	16	50.1	49.7	277	10.5	26	6.2	3.5	311	10.5	6	53.6	52.7	291	14.1	1	26.7	26.7	300
12.0	1	5.1	5.1	310	12.0	12	54.5	52.2	278	12.0	25	6.4	3.6	287	10.5	4	52.5	51.4	280		TIRUCHIRAPALLI			
	1730 hrs.					1730 hrs.					1130 hrs.					1730 hrs.*					1730 hrs.			
10.5	5	12.3	11.7	308	10.5	13	9.6	8.2	297	10.5	9	6.1	4.5	3.4	10.5	7	56.7	55.8	285	10.5	4	8.2	6.0	080
12.0	2	13.1	12.8	310	12.0	12	9.8	8.5	286	12.0	4	8.5	7.5	300	12.0	1	49.2	49.2	290	12.0	2	9.5	8.6	005
14.1	2	10.3	9.4	294	14.1	9	10.7	9.7	281	14.1	1	2.1	2.1	250		POONA					TRIVANDRUM			
16.2	1	12.9	12.9	260	16.2	6	5.0	2.5	267	16.2	8	8.0	2.9	300		1730 hrs.				10.5	16	8.3	7.0	083
18.0	1	12.4	12.4	290	18.0	5	9.6	3.8	0.7	18.0	5	5.6	1.5	325		0530 hrs.*				12.0	14	9.3	7.7	092
21.0	1	14.9	14.9	265	21.0	3	8.1	0.4	335	21.0	3	8.1	0.4	335		1730 hrs.*				14.1	7	7.7	7.1	096
	BAMRAULI					GANNAVARAM					MANGALORE					FORT BLAIR					1130 hrs.			
	0530 hrs.*					1730 hrs.					1730 hrs.*					0530 hrs.*					1730 hrs.*			
10.5	7	60.5	59.2	286	10.5	13	9.6	8.2	297	10.5	9	6.1	4.5	3.4	10.5	15	5.8	1.6	278	10.5	3	31.9	30.9	233
12.0	3	62.6	56.4	299	12.0	12	9.8	8.5	286	12.0	4	8.5	7.5	300	12.0	10	7.4	3.2	252	12.0	1	18.0	18.0	280
	1730 hrs.*					1730 hrs.					1730 hrs.*					1730 hrs.*					1730 hrs.*			
10.5	6	57.4	56.5	285	10.5	3	12.7	12.4	265	10.5	25	6.3	3.1	304	10.5	3	31.9	30.9	233	14.1	7	7.7	7.1	096
12.0	4	56.9	56.1	283	12.0	1	7.7	7.7	295	12.0	24	6.0	4.3	302	12.0	1	18.0	18.0	280	16.2	2	8.5	7.4	033
14.1	1	32.3	32.3	300	14.1	9	10.7	9.7	281	14.1	20	6.5	4.1	278		POONA					1130 hrs.			
	BANGALORE					GAUHATI					MANGALORE					FORT BLAIR					1130 hrs.			
	0530 hrs.					0530 hrs.*					1730 hrs.					0530 hrs.*					1730 hrs.*			
10.5	1	7.7	7.7	325	10.5	2	54.5	54.5	290	10.5	3	9.9	2.2	328	10.5	15	5.8	1.6	278	12.0	2	16.0	16.0	087
	1730 hrs.					1730 hrs.*					1730 hrs.					1730 hrs.*					1730 hrs.*			
10.5	18	7.8	4.5	294	10.5	1	77.1	77.1	275	10.5	2	3.9	2.8	281	10.5	11	4.7	1.1	356	14.1	1	14.9	14.9	075
12.0	15	6.7	3.7	321	12.0	3	47.5	46.4	285	12.0	2	3.9	2.8	281	12.0	2	3.9	0.9	138	16.2	8	11.1	9.9	057
14.1	14	5.2	2.3	277	12.0	2	66.7	60.5	272	12.0	2	66.7	60.5	272	14.1	1	4.6	4.6	210	18.0	3	6.0	5.6	060
16.2	10	7.1	1.8	077		1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*			
18.0	9	5.8	0.4	299		1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*			
21.0	2	17.0	1.8	231		1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*			

RADIOSONDE DATA

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October 1944	00 and 12	
2	Amritsar	Clock type	21st June 1957	00 and 12	
3	Bombay	Clock type	7th September 1954	00 and 12	
4	Calcutta	Clock type	13th December 1946	00 and 12	Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July 1955	00 and 12	
6	Jodhpur	Clock type	17th April 1946	00 and 12	
7	Madras	Fan type	29th June 1946	00 and 12	
8	Nagpur	Fan type	1st October 1946	00 and 12	
9	New Delhi	Clock type	3rd December 1943	00 and 12	
10	Port Blair	Fan type	4th December 1949	00 and 12	
11	Trivandrum	Fan type	1st July 1947	00 and 12	
12	Veraval	Fan type	3rd October 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1007 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	28	048	297·9	300	296	293·2
1000	28	108	..	..	..	..
900	28	1028	293·3	299	289	285·0
850	28	1520	290·6	297	286	281·0
800	28	2037	287·2	293	282	278·1
700	28	3154	281·3	289	276	266·6
600	28	4413	275·0	282	269	256·1
500	28	5866	266·7	272	261	..
400	27	7577	255·7	262	251	..
300	23	9681	241·1	250	236	..
250	18	10952	231·8	240	228	..
200	17	12423	220·2	228	216	..
175	12	13261	214·1	223	211	..
150	12	14229	207·4	217	203	..
125	9	15347	203·7	209	197	..
100	6	16736	199·0	202	193	..
80	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 12 Hours G. M. T.

February 1959 (Magha 12—Phalguna 9, 1880 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1009 mb.)						NAGPUR (975 mb.)						NEW DELHI (988 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	28	015	301.9	305	299	294.7	28	311	303.6	308	296	282.0	28	210	293.6	299	290	281.4
1000	28	096	..	..	..	..	28	087	..	..	..	..	28	103	..	..	..	..
900	28	1022	295.7	302	284	294.7	28	1022	297.2	302	291	277.9	28	1005	288.8	295	286	274.1
850	28	1517	292.6	299	289	275.8	28	1511	293.2	297	285	275.4	28	1488	286.0	292	283	269.4
800	28	2036	289.5	295	286	273.1	28	2030	238.1	292	284	270.9	28	1994	283.1	288	279	266.4
700	28	3160	283.1	287	279	263.8	28	3145	280.9	285	277	265.0	28	3091	276.5	283	271	256.7
600	28	4129	276.7	281	273	251.0	28	4398	273.9	279	267	250.2	28	4325	269.0	274	262	..
500	28	5387	267.9	271	244	..	28	5845	266.2	271	262	..	28	5742	260.5	267	253	..
400	28	7603	256.7	262	252	..	28	7552	254.9	262	252	..	28	7411	249.7	254	245	..
300	26	9710	241.4	246	237	..	28	9645	240.0	245	236	..	26	9461	237.2	246	231	..
250	25	10975	231.9	240	228	..	28	10905	230.8	237	227	..	23	10717	230.9	237	223	..
200	24	12468	221.9	233	217	..	26	12383	220.5	230	217	..	21	12190	222.8	228	215	..
175	21	13313	215.1	225	211	..	26	13236	215.2	225	207	..	16	13068	218.7	227	211	..
150	21	14268	208.5	219	203	..	25	14200	210.0	220	204	..	13	14037	213.6	224	205	..
125	15	15364	203.3	215	198	..	21	15318	205.3	215	199	..	10	15174	210.1	216	203	..
100	11	11681	198.0	211	190	..	21	16656	200.0	208	193	..	8	16561	207.0	211	200	..
80	6	18130	199.3	215	192	..	18	17950	198.3	207	194	..	5	17907	205.2	209	201	..
PORT BLAIR (1002 mb.)						TRIVANDRUM (1002 mb.)						VERAVAL (1011 mb.)						
Surface	28	079	299.9	301	299	295.1	28	064	302.9	304	301	294.6	28	008	298.3	302	297	291.5
1000	25	095	..	..	..	..	28	032	..	..	..	..	28	104	..	..	..	..
900	24	1016	293.6	297	291	289.5	28	1010	295.2	298	293	287.9	28	1024	294.2	299	289	275.7
850	24	1510	290.7	293	283	286.3	28	1505	292.2	294	289	284.2	28	1514	290.7	295	286	271.4
800	24	2025	288.3	291	284	282.3	28	2024	289.3	293	285	278.4	28	2030	288.2	292	283	269.5
700	24	3148	283.0	286	280	274.2	28	3148	283.7	287	281	265.3	28	3148	282.0	286	279	263.5
600	24	4413	276.2	282	272	265.3	28	4415	277.0	279	272	258.5	28	4405	273.9	280	270	251.8
500	24	5854	265.5	272	262	..	28	5871	268.1	271	264	..	28	5849	265.8	269	261	..
400	22	7567	254.4	261	247	..	28	7587	257.0	260	252	..	28	7554	254.7	259	249	..
300	14	9690	241.8	247	234	..	28	9684	240.7	246	234	..	28	9643	240.1	246	233	..
250	10	10991	233.2	238	229	..	28	10946	231.2	237	222	..	27	10901	230.4	239	221	..
200	5	12389	221.6	227	219	..	27	12424	219.2	228	210	..	27	12374	219.5	228	209	..
175						..	23	13266	213.1	221	205	..	25	13231	213.4	223	202	..
150						..	22	14217	205.3	215	197	..	25	14184	207.7	218	193	..
125						..	17	15305	201.9	209	192	..	22	15263	201.2	210	192	..
100						..	14	16564	198.8	202	193	..	19	16578	197.4	205	183	..
80						..	8	18155	193.6	204	192	..	13	17929	199.6	209	93	..

RADIOSONDE DATA

TABLE VI--MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 12 Hours G. M. T.

February 1959 (Magha 12--Phalguna 9, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1006 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	28	048	300.5	303	298	294.4
1000	28	097	..	..	..	..
900	28	1022	295.4	301	289	283.2
850	28	1517	292.0	295	287	279.8
800	28	2036	288.5	293	285	277.1
700	28	3155	281.5	286	277	267.3
600	28	4417	275.3	279	270	257.9
500	27	5872	267.2	274	262	..
400	27	7585	255.6	264	251	..
300	25	9681	240.2	247	234	..
250	21	10943	230.2	238	225	..
200	16	12421	219.4	227	213	..
175	13	13283	212.1	220	209	..
150	12	14242	209.3	218	202	..
125	9	15344	204.5	214	197	..
100						..
80						..

NOTE.—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

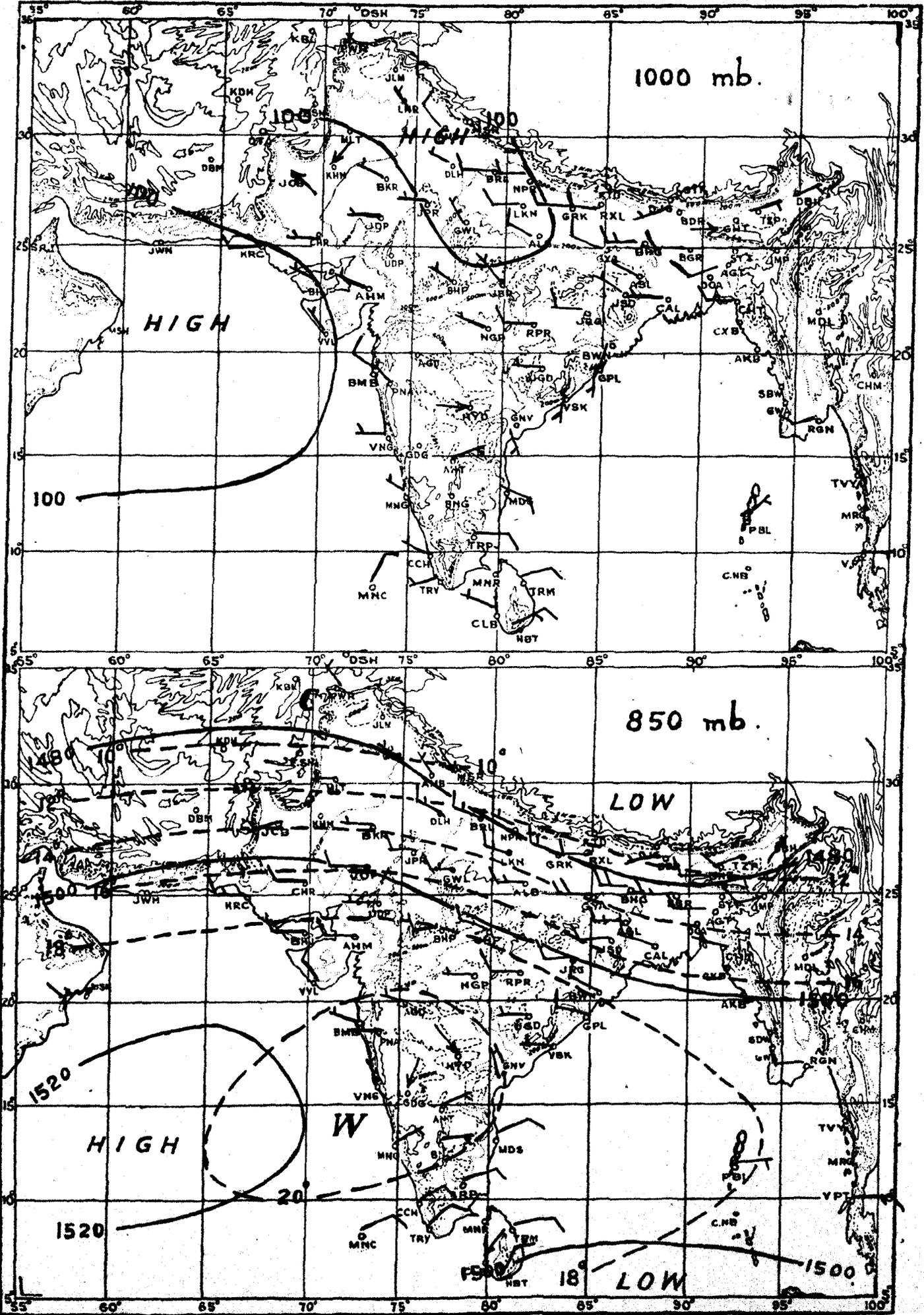
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I.Met.D.

FEBRUARY 1959

Plate I



RESULTANT WIND — 5 Knots; — 10 Knots, — 50 Knots.

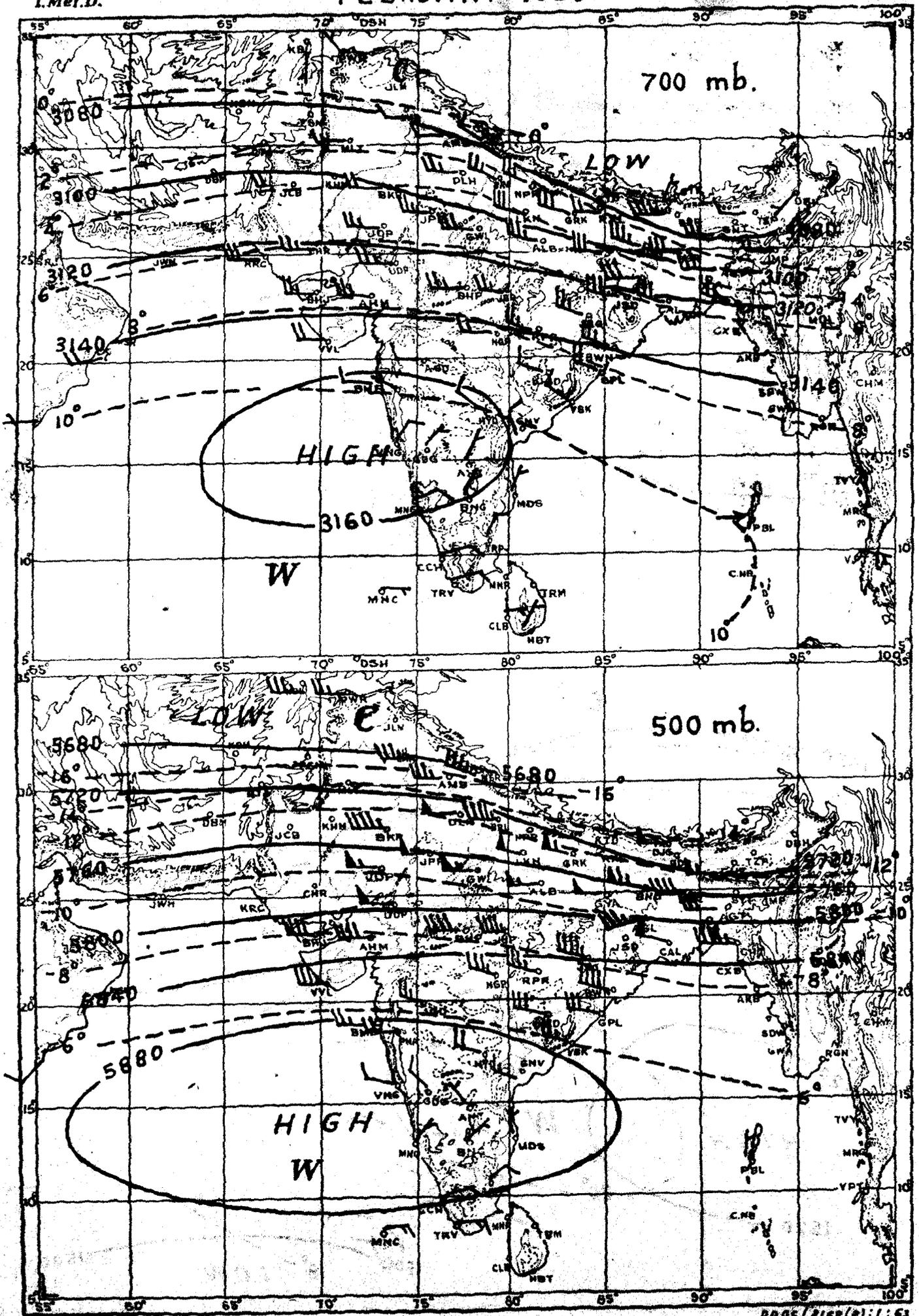
----- Isotherms in degrees centigrade — Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

FEBRUARY 1959

I.Met.D.

Plate 77



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

NOAA/1165, 1963



Registered No. B-3097

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

March.

2 JUN 14

Copy 1955

Published by authority of the Government of India

Chief features :

Deficient rainfall over most of the country.

Five western disturbances affected the country during the month. The first three were comparatively feeble. The subsequent two which came in quick succession one after the other, induced low pressure areas which moved across the country up to Northeast India. They were responsible for a good amount of rainfall over the belt extending from Jammu and Kashmir to Assam during the last week of the month. In association with the fifth western disturbance a severe dust storm swept over Delhi on 29th in which a wind speed of 75 mphs was attained. According to press reports, the dust storm was responsible for collapse of many house and damage to property.

Details about the disturbances are given in the Tabular statement below :

Serial No.	Period	Course	Region affected	Nature of precipitation	Period	Remarks
1.	1st-7th	Southeast Iran-Baluchistan-Punjab Jammu & Kashmir-Western Himalayas-Eastern Himalayas	Jammu & Kashmir Punjab-Kumaon hills-Assam	Local rain/snow Scattered showers Local or scattered thundershowers	2nd & 3rd 4th 3rd - 8th	Gulmarg recorded 6 cms rain on 2nd.
2.	9th-11th	Baluchistan-Punjab - Jammu & Kashmir	Jammu & Kashmir	Local or scattered rain/snow	10th & 11th	
3.	14th-18th	Baluchistan-Punjab - Jammu & Kashmir	Jammu & Kashmir	Isolated very light showers	16th-18th	
4.	24th-27th	Baluchistan-Punjab - Jammu & Kashmir	Jammu & Kashmir Himachal Pradesh Punjab-Kumaon hills	Fairly widespread or local rain/snow Fairly widespread or local thundershowers	25th & 26th 26th & 27th	
4a.	25th-28th	Northeast Madhya Pradesh-Bihar- West Bengal-East Pakistan- Assam	Bihar Plains-We Ben- gal Assam	Scattered thundershowers Local or scattered thun- dershowers Fairly widespread or local thundershowers	25th 25th-28th 25th-28th	Induced by Western Distu- rbance 4.
5.	28th-31st	Afghanistan-NWFP-Punjab Jammu & Kashmir	Jammu & Kashmir Himachal Pradesh & Punjab West Uttar Pradesh	Local rain/snow Fairly widespread thun- dershowers Local thundershowers	29th-31st 31st 30th & 31st	
5a.	30th March- 2nd April	East Rajasthan - Madhya Pradesh- Orissa	Rajasthan Madhya Pradesh Bihar and Orissa West Bengal & Assam	Scattered thundershowers Scattered thundershowers Scattered thundershowers Fairly widespread or local thundershowers	30th 31st 31st March- 2nd April 31st March- 2nd Apri	Induced by Western Distu- rbance 5.

Scattered showers were reported from Kerala on four days and from north Interior Mysore on one day. Otherwise, mainly dry weather prevailed over the south Peninsula throughout the month.

Day temperatures were appreciably above normal over northwest India, Gujarat and Saurashtra and Kutch between 14th and 25th. They were markedly above normal in Rajasthan from 21st to 24th.

Total rainfall for the month was in moderate excess in Assam and Bihar Plains and in slight excess in Sub-Himalayan West Bengal. It was in moderate defect in the Bay Islands, west Uttar Pradesh and Jammu and Kashmir and in large defect over the rest of the country outside east Rajasthan, west Madhya Pradesh, Gujarat, Saurashtra and Kutch, the Konkan, Andhra Pradesh, the Madras State and coastal and south Interior Mysore, where there was no rain.

"Copyright © 1959 by the Manager of Publications, Govt. of India, Delhi-8."

Price : (Inland) Rs. 25.00 (Foreign) 53s. 4d. or \$9

The mean maximum temperature was above normal in the Bay Islands, Bihar Plateau, west Uttar Pradesh, the Punjab (I), Rajasthan, Madhya Pradesh, Gujarat, Saurashtra and Kutch, Maharashtra, Vidarbha, Telangana, north Interior Mysore, Kerala and the Arabian Sea Islands and was normal over the rest of the country. The mean minimum temperature was above normal in the Bay Islands, west Rajasthan and Gujarat and normal over the rest of the country.

The mean relative humidity in the morning was above normal in Bihar Plains and Saurashtra and Kutch and below normal in Bihar Plateau, Jammu and Kashmir, east Madhya Pradesh, Maharashtra, Telangana and Kerala. It was normal over the rest of the country.

The mean cloud amount in the morning was above normal in the Bay Islands and Sub-Himalayan West Bengal and below normal over the rest of the country outside Assam, Jammu and Kashmir, north Interior Mysore, Kerala and the Arabian Sea Islands, where it was normal.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. I.S.T. of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. I.S.T. of the date given in the succeeding column.

Poona 5,
The 18th August 1960

C. RAMASWAMY,
for DIRECTOR GENERAL OF OBSERVATORIES

Page No.	Station	Hour	Column	For	Read
115	Sale price	-	-	(Inland) Rs.25.00	Rs. 11.05 nps.

115	Serial No. 4 a under 'Region affected'			Bihar Plains We Bengal, Assam.	Bihar Plains West Ben Assam.
-----	--	--	--	-----------------------------------	---------------------------------

Table I - Division.

117	4. Bihar	5		-0.8	- 0.1
117	11. Andhra Pradesh	5		21.1	22.1
117	11. Andhra Pradesh	5		- 0.4	- 0.2

Table I - Sub-Division.

17	9. Utter Pradesh (West)	6		+3	+2
17	28. Interior Mysore (South)	8		0.7	- 0.7

Table II

18	Port Blair	19		2.3	- 2.3
18	Tespur	6		16.8	16.8 (a)
18	Chapermukh	8		12.9	12.0
18	Rangiye	6		16.7	16.7 (a)
18	Agartala	9		9,161,17	9,16,17
18	Haflong	11		142.7	142.6
18	Haflong	20(b)		0	13
18	Haflong	21		13	0
18	Haflong	23,24		0,6	6,0
18	Lumding	11		60.0	64.0
18	Calcutta	6		23.3	22.3
19	Cuttack	3		- 0.8	+ 0.8
19	Dhanbad	13		8.6	2.8
19	Faizabad	12		-7.4	---
19	Jhansi	7		+1	+1.7
19	Karnal	7		+0.3	---
19	Jammu	1		Jammu	Jammu †
19	Champa	25,26		0,3	3,0
19	Radhanpur	29		(Blank)	0
19	Dohad	19		+7.5	---
19	Rajkot(Aerodrome)	19		+7.3	---
19	Dahanu	3		0.8	+0.8
19	Bombay (Colaba)	3		1.5	+1.5
19	Bombay (Colaba)	19		+0.5	-0.5
19	Gannevaram	8		30.3	20.3
19	Gannevaram	17		41.2	14.2
19	Pamban	2		31.0	31.9
19	Mathurai	7		0.5	+0.5
19	Mathurai	9		4	4 days
19	Tirupattur	6		17.7	17.9
19	Vellore	4		34.7	37.7
19	Bijapur	11		0	4.8
19	Reichur	24		9	0
19	Chiteldrug	2		25.1	35.1
19	Mysore	6		20.1	20.0
19	Mysore	9		9	19

Page No.	Station	Hour	Column	For	Read
<u>Table II (Contd)</u>					
124	Bangalore (Central Observatory)		3	-0.3	+0.3
124	Fort Cochin		9	2	20
124	Dharampore		21	6	---
124	Dharamshala		23,24	0,3	3,0
124	Abu		19	+2.2	+1.2
124	Yatung(Chumbi)		16	-4.1	-1.4
124	Batticola		11	9.5	9.2
124	(Foot Note)			(e) Mean of 27 days	(e) Mean of 26 days
125	Gangtok		13	29.9	29.0
125	(Foot Note)		-	(a) Mean of 29 days.	(a) Mean of 30 days.
<u>Table III</u>					
126	Kondul	0830	9	24.4	24.5
126	Golaghat	1730	2	1730	* 1730
127	Gauhati (Bhorjor Aerodrome)	2330	9	15.5	15.4
127	Rangiya	1730	2	R	Delete
127	Goalpara	0830	2	0830	(R) 0830
127	Bagdogra	1130	8	20.0	20.1
127	(Foot Note)	-	-	Blank	* Observations for 30 days. (R) = Register not received
128	Malda	0830	4	1012.5	1012.4
128	Saugar Island	0830	15	18.8	18.9
129	Jharsuguda	2330	10	1.1	11.1
129	Jamshedpur	0830	9,10	11. ,13.	11.2, 13.4
129	Jamshedpur (PBO)	0530	10	3	13.6
129	Hazaribagh	1730	5	940.0	940.4
129	Motihari	-	1	Not clear	Motihari
129	Motihari	1730	8	26.9	20.9
130	Varanasi (Benaras) (Babatpur Aerodrome)	1730	18	2	23
130	Sultanpur	0830	3,5	---,---	97, 1002.2
130	Sultanpur	1730	3,5	---,---	97, 998.8
131	Jhansi	0830	6	---	0
131	Agra	0830	7,10,24	23.2,13.4,0	23.0,13.2,6
131	Mainpuri	1730	5	998.8	989.8
131	Bareilly(PBO)	0230	6	+0.1	---
131	Roorkee	0830	6	-0.4	+0.4
131	Dehra Dun	0830	6	-0.5	+0.5
132	Jarnal	1730	7,9	28.6,9.8	28.0,9.6
132	Ambala	0830	6,11	0.2,Not clear	+0.2, 69
132	Ambala (PBO)	1130	10	11.5	11.9
132	Ambala(Aerodrome)	0530	8	11.9	11.5
132	Ambala(Aerodrome)	2330	9	10.7	10.3
132	Ferozepur	-	1	Ferozepu	Ferozepur
133	Bilaspur	1730	25	2	3
133	Gulmarg	0830	2	1030	0830
133	Leh	0530	9	Not clear	-13.6
133	Leh	0830	12	-1.6	-16

Page No.	Station	Hour	Column	For	Read
<u>Table III(Contd.)</u>					
133	Jammu	0830	3	,,	---
133	Sri Ganganagar	1130	15	5.13	5.3
133	Sri Ganganagar	2330	10	12.5	13.5
134	Barmer	1730	7	35.6	35.5
134	Alwar	0830	28	0	1
134	Udaipur	0230	5	946.9	946.1
135	Indore	1130	26	0	2
135	Hoshangabad	0830	12,28	...,0	0.1
135	Umaria	0830	12	-6	-5
135	Mandla	0830	28	1	0
135	Pendra	0830	6	---	0
135	Champa	1730	8	16.8	18.0
135	Raigarh	1730	28	Blank	0
135	Jagdalpur(PBO)	0530	10	18.6	13.6
136	Deesa	0830	6	+2.2	+0.7
136	Breach	0830	27	0	4
136	Breach	1730	27	6	0
136	Surat	0830	8	18.3	18.0
136	Surat	1730	27	4	0
136	Kandla	1730	26	Blank	2
137	Porbander (Aerodrome)	1130	4	1013.3	1013.9
137	Versval	1130	7	32.2	32.0
137	Wengurla	2330	10	250	25.0
138	Amravati	---	1	Amravati	Amravati
138	Yectmrl	1730	13	5.5	0.5
139	Ongole	0830	17	3	0
140	Palayamcottar	1730	11	61	41
140	Panban	1730	23	Blank	0
140	Tiruchirappalli	0530	8,10	21.5,24.5	21.4,24.4
140	Cimbatore	0830	13	0.8	0.3
140	Kulakurichi	1730	23	9	0
141	Vellore	---	1	Vellore	Vellore
141	Vellore	1130	22,23	0,7	7,9
141	Mangalore (Bajpe Aerodrome)	---	1	Mangalore (Baje Aerodrome)	Mangalore (Bajpe Aerodrome)
141	Belgaum	0830	6	+0.7	+0.8
141	Gadag (PBO)	2330	15	13.2	13.2
142	Chitaldrug	-	1	Chitaldrug	Chitaldrug
142	Mysore	1730	15	11.9	14.9
143	Kohima	1730	15	2.1	2.5
143	Katmandu	-	1	Katmandu	Katmandu(Hydromet)
143	Abu	0830	14	-1-2	-1.3
143	Mahabaleshwar	0830	14	-0.5	-0.4
143	Yatung (Chumbi)	0830	14	-1-4	-0.7
143	Colombo	0830	14	-1.0	-1.4
144	(Heading)	---	---	(Phalguna 10, 1080 etc.)	(Phalguna 10, 1880 - etc.)
144	Thikri	0830	8	8.9	18.9
145	Farankshtra	1130	4	1011.1	1011.4
145	Gangtok	0830	9	(Not clear)	6.9

Page No.	Station	Time in I.S.T.	Ht. in Km.	Entry under column	Existing entry	Correct entry
147	Agartala, Asansol, Baghdogra, Bhagalpur, Bhubaneshwar, Gaya, Imphal, Jamshedpur, Mohanbari, Rexaul, Tezpur.		-	Approximate times of Flight(IST)	(Not Given)	1130
Table IV.						
148	Agartala	1130	2.1	V	4.1	4.4
149	Amritsar	1730	2.1	v	4.1	4.5
150	Baghdogra	1730	6.0	D	381	281
150	Bangalore	2330	2.1	n	21	31
151	Bhubaneshwar	0530	0.6 amsl.	D	937	237
152	Bhub.	0530	3.6 amsl.	D	384	304
153	Darjeeling	1730	3.6	D	228	288
153	Dehradun	0530	-	Time in IST	0530*	0530
153	Dum Dum	1130	5.4	D	294	291
153	Dum Dum	1130	6.0	D	291	283
153	Dum Dum	1130	7.2	D	283	279
153	Dum Dum	2330	3.0	V	18.5	10.5
156	Jabalpur	2330	2.1	v	1.0	6.0
156	Jagdulpur	1730	5.4	v	1.1	10.8
156	Jaipur	0550	3.0	v	9.4	8.4
156	Jaipur	1730	5.4	D	232	282
156	Jharsuguda	1730	0.3	v	8.2	3.2
156	Jharsuguda	2330	0.15	D	804	304
157	Jodhpur	1730	4.5	V	18.8	13.8
157	Jodhpur	2330	0.3	D	229	279
157	Jodhpur	2330	3.0	V	5.9	5.5
157	Madras	1730	3.0	v	2.5	7.6
157	Mangalore	0530	3.0	n	21	26
158	Mchanberi	0530	4.5	V	-	8.4
159	New Delhi	1730	1.5	D	315	310
159	Poona	0530	3.0	n	21	31
159	Poona	0530	3.0	D	098	096
161	Udaipur	0530		n V v D	Values printed for levels from 0.6 to 4.5 may be read for levels 0.9, 1.5, 2.1, 3.0, 3.6, 4.5 and 5.4 respectively.	
161	Udaipur	0530	3.0	D	374	274
161	Udaipur	0530	5.4	v	1.8	11.8
161	Udaipur	1730	1.5	D	300	280
161	Udaipur	2330	1.5	v	4.5	4.4
161	Vengurla	0530		n V v D	Values printed for levels from 0.9 to 6.0 may be read for levels 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, and 4.5 respectively.	
162	Vengurla	2330	0.15 ag.	D	242	342
162	Veraval	1730	1.5	D	243	343
162	Visakhapatnam	0530	0.9	n	23	20

Contd. 5

Page No.	Station	Time in I.S.T.	Ht. in Km.	Entry under column	Existing entry	Correct entry.
163	Gopalpur	0530	10.5	D	255	265
163	Gorekhpur	1730	12.0	V	9.8	39.8
163	Gorekhpur	1730	14.1	V	.6	21.6
163	Jodhpur	0530	10.5	v	32.27	32.7
163	Nagpur	0530	16.2	D	247	274
163	Nagpur	1730	24.0	Ht. in Km.	18.0	24.0
164	Port Blair	0530	16.2	Ht. in Km.	16.5	16.2
164	Santa Cruz	0530	16.2	Ht. in Km.	16.0	16.2

Radiosonde data.

166	Allahabad	00	150mb	Min.	204	203
166	Allahabad	00	125 mb	Min.	203	204
166	Calcutta	00	700 mb	Max.	281	284
166	Gauhati	00	500 mb	Ht. gpm.	4764	5764
169	Calcutta	12 GMT	800 mb	Mean	281.7	288.7
169	Calcutta	12 GMT	700 mb	Mean	288.5	281.5
170	Port Blair	12 GMT	600 mb	Mean	276.5	276.4

1	Rainfall (millimetres)	3	4	5	Relative humidity %		Cloud		1	2	3	4	5	Relative humidity %		Cloud								
	2				Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	0830 hrs. I.S.T.						1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.	6	7	8	9	6	7	8	9
Division									Division—(Contd.)															
1. Assam (Including Manipur, Tripura)	118.5 +36.5	145	28.7 -0.1	16.8 +0.6	71 -2	59 +0.3	3.3	3.1	7. Jammu and Kashmir.	107.1 -39.4	73	10.3 -0.1	1.1 +0.5	63 -7	49	4.0 -0.9	4.3							
2. West Bengal	16.2 -15.6	51	33.1 +0.2	19.8 +0.6	62 -1	40 -0.4	1.6	1.2	8. Rajasthan . . .	0.8 -4.8	14	34.7 +3.0	17.1 +1.5	39 -3	16	0.8 -0.8	1.0							
3. Orissa	6.2 -18.8	25	33.6 0	21.5 0	65 -3	52 -0.9	1.1	1.5	9. Madhya Pradesh	0.4 -11.9	3	35.1 +1.7	17.3 +0.6	34 -6	16	0.4 -0.9	0.7							
4. Bihar	10.7 -4.4	71	33.4 +0.9	16.8 -0.8	48 0	32 -0.7	0.8	0.5	10. Bombay . . .	0 -3.7	0	35.5 +1.4	20.0 +0.7	51 -2	33	0.5 -0.8	0.6							
5. Uttar Pradesh	5.6 -6.2	47	32.4 +1.0	15.6 +0.6	52 +2	28 -0.9	0.7	0.9	11. Andhra Pradesh	0 -8.3	0	36.3 +0.7	21.1 -0.4	58 -6	39	1.0 -1.0	0.7							
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	2.6 -14.9	15	31.3 +1.3	14.5 +0.3	58 +4	31 -0.8	1.3	1.8	12. Madras State . . .	0 -14.9	0	34.0 +0.1	22.4 -0.2	71 -4	44	1.7 -0.8	1.0							
									13. Mysore . . .	0.3 -8.0	4	35.2 +0.7	21.2 +0.5	59 0	34	1.0 -0.4	1.8							
									14. Kerala . . .	4.7 -31.1	13	33.0 +1.1	25.2 +0.5	70 -6	66	2.1 0	2.7							
Sub-division									Sub-division—(Contd.)															
1. Bay Islands	18.5 -10.0	65	32.1 +1.3	23.1 +1.2	69 -3	76 +0.6	3.5	4.0	16. Madhya Pradesh (East).	0.9 -16.9	5	35.1 +1.9	17.5 +0.4	36 -9	17	0.3 -1.2	0.7							
2. Assam (Including Manipur, Tripura)	118.5 +36.5	145	28.7 -0.1	16.8 +0.6	71 -2	59 +0.3	3.3	3.1	17. Gujarat . . .	0 -0.9	0	37.5 +2.0	19.0 +1.4	49 -1	17	0.2 -0.9	0.2							
3. Sub-Himalayan West Bengal	38.7 +7.5	124	30.3 -0.7	16.6 +0.5	60 +1	37 +0.3	1.6	1.2	18. Saurashtra and Kutch	0 -2.1	0	34.2 +1.4	19.3 +0.8	69 +6	53	1.0 -0.4	0.5							
4. Gangetic West Bengal.	7.8 -24.2	24	33.9 +0.4	20.7 +0.6	62 -1	41 -0.6	1.6	1.2	19. Konkan . . .	0 -0.9	0	31.1 +0.9	22.1 +0.5	70 -1	65	0.5 -1.1	0.3							
5. Orissa	6.2 -18.8	25	33.6 0	21.5 0	65 -3	52 -0.9	1.1	1.5	20. Maharashtra (Including Marathwada)	0.1 -3.7	3	37.7 +1.7	19.0 +0.8	33 -8	15	0.2 -0.7	0.8							
6. Bihar Plateau	3.2 -19.1	14	34.3 +1.6	17.3 -0.2	41 -7	24 -1.2	0.4	0.5	21. Vidarbha . . .	0.1 -13.1	1	38.0 +1.2	19.9 +0.3	32 -4	17	0.2 -1.1	1.0							
7. Bihar Plains	14.8 +3.8	135	32.5 +0.2	16.3 +0.1	56 +7	39 -0.3	1.2	0.6	22. Coastal Andhra Pradesh.	0 -8.8	0	35.0 +0.6	22.8 -0.2	69 -5	56	1.5 -0.9	0.8							
8. Uttar Pradesh (East).	1.8 -7.1	20	33.2 +0.7	16.1 +0.5	50 +2	28 -0.9	0.4	0.6	23. Telangana . . .	0 -11.2	0	37.0 +1.1	20.2 -0.4	44 -10	17	0.4 -1.2	0.5							
9. Uttar Pradesh (West).	9.9 -5.3	65	31.6 +1.2	15.1 +0.8	53 +3	29 -0.8	0.9	1.4	24. Rayalaseema . . .	0 -4.6	0	38.5 +0.5	22.9 -0.1	51 -3	31	0.3 -0.9	0.7							
10. Punjab (India) (Including Delhi.)	2.6 -14.9	15	31.3 +1.3	14.5 +0.3	58 +4	31 -0.8	1.3	1.8	25. Madras State . . .	0 -14.9	0	34.0 +0.1	22.4 -0.2	71 -4	44	1.7 -0.8	1.0							
11. Himachal Pradesh.	34.3 ..	..	27.5 ..	10.2 ..	77 ..	39 ..	4.0	2.8	26. Coastal Mysore . . .	0 -1.9	0	32.3 +0.1	24.1 +0.5	79 +3	66	1.7 -0.7	3.1						
12. Jammu and Kashmir.	107.1 -39.4	73	10.3 -0.1	1.1 +0.5	63 -7	49 -0.9	4.0	4.3	27. Interior Mysore (North)	0.8 -6.7	11	37.1 +1.2	21.4 +0.4	46 -3	30	1.0 -0.1	1.9							
13. Rajasthan (West).	1.7 -4.6	27	34.6 +3.3	17.1 +2.1	43 -5	17 -0.9	1.0	1.2	28. Interior Mysore (South)	0 -12.3	0	34.2 +0.4	20.0 +0.7	65 +3	27	0.8 0.7	1.3							
14. Rajasthan (East)	0 -5.0	0	34.8 +2.7	17.1 +1.0	36 -2	15 -0.8	0.7	0.8	29. Kerala . . .	4.7 -31.1	13	33.0 +1.1	25.2 +0.5	70 -6	66	2.1 0	2.7							
15. Madhya Pradesh (West).	0 -8.0	0	35.0 +1.5	17.0 +0.7	32 -4	14 -0.7	0.5	0.6	30. Arabian Sea Islands	6.5 -6.7	49	32.9 +1.7	25.1 -1.1	77 +5	71	3.1 +0.4	3.5							

Notes:—The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

124 TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—MARCH, 1959 (PHALGUNA 10, 1880—CHAITRA 10, 1881 SAKA)

Division and station	Air temperature in °C								Rainfall in millimetres						No. of rainy days (2.5 mm. or more)		Wind speed, kms. per hour			Weather phenomena—No. of days with														
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 of 02 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall					
																														20 a	20 b	21	22	23
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 a	20 b	21	22	23	24	25	26	27	28	29					
Interior Mysore (South)—Contd.																																		
Bangalore (Central Observatory).	32.7	-0.3	35.0	29	18.7	+0.6	15.8	19	0	0	-10.2	0	..	0	-0.8	11.7	9.4	+2.2	0	0	0	0	0	0	0	0	0	0	0	0				
Bangalore (Aerodrome).	34.1	..	36.6	29	18.5	..	15.4	19	0	0	..	0	..	0	..	..	..	..	0	0	0	0	0	1	0	0	0	0	0	0
Kerala																																		
Kozhikode .	33.3	+1.0	34.8	20	25.3	+0.8	23.8	20, 21	0	0	-17.3	0	..	0	-0.8	14.2	12.9	+2.3	0	0	0	0	0	0	0	0	0	0	0	0				
Palghat .	39.0	..	41.4	28	24.1	..	20.4	15	0	0	..	0	..	0	..	11.3	8.6	..	0	0	0	0	0	0	0	0	0	0	0	0				
Fort Cochin .	32.6	+1.5	34.4	21	26.4	+0.8	25.2	2	0	8.0	-43.1	4.8	30	2	-0.8	14.5	9.1	+0.2	0	2	0	0	0	0	0	0	0	0	0	0				
Cochin (Naval Air Station).	33.1	..	34.7	21	25.5	..	21.6	21	0	12.6	..	7.8	10	2	..	15.0	10.1	..	0	3	0	0	3	0	0	0	0	0	0	0				
Alleppey .	33.1	..	34.5	21	25.3	..	23.8	13	0	35.8	..	31.8	30	2	..	17.9	12.2	..	0	3	0	0	1	0	0	0	0	0	0	0				
Punalur .	37.7	..	39.3	29	22.2	..	18.6	2	13.6	14.8	..	8.2	30	2	..	7.8	4.4	..	0	3	0	0	1	0	0	0	0	0	0	0				
Trivandrum .	33.1	+0.7	36.2	11	24.0	-0.2	20.8	2	1.4	6.2	-32.9	4.8	26	1	-1.5	10.5	6.8	+0.7	0	2	0	0	4	0	0	0	0	0	0	0				
Trivandrum (Aerodrome)	32.8	..	33.5	23,25	23.5	..	20.0	20	..	16.6	..	16.2	26	1	..	..	8.0	..	0	2	0	0	2	0	0	0	0	0	1	0		
Arabian sea islands																																		
Minicoy*																																		
Amini Divi*																																		
Hill Stations excluding Kashmir																																		
Walong (R)																																		
Kohima .	20.7	..	29.1	20	12.1	..	9.3	4	29.6	90.6	..	29.0	27	9	..	..	..	..	0	10	0	0	5	4	0	0	0	0	0	
A. Jai .	24.3	..	29.5	22	16.1	..	11.6	5	79.2	188.7	..	102.9	5	9	..	2.1	1.2	..	0	10	0	0	0	0	0	0	0	0	0	0				
Shillong .	21.5	+0.2	25.7	24	10.2	-0.2	5.1	1	14.1	33.9	-16.1	14.2	28	4	+0.1	4.2	3.1	-3.7	1	7	0	1	5	0	0	0	0	0	0	0				
Cherrapunji .	20.1	-0.3	24.7	23	12.4	-0.3	8.2	4	116.0	287.0	+102.3	115.0	4	9	+1.9	13.8	12.2	+1.6	0	9	0	0	0	0	0	0	0	0	0	0				
Darjiling (Raj Bhawan).	14.7	+0.9	21.3	24	7.5	+0.4	3.9	5	20.9	63.4	+15.7	31.8	25	4	+0.4	2.6	2.7	0	0	7	0	0	1	12	0	0	0	0	0	0				
Kalimpong .	21.1	+0.3	25.7	22,23, 31	13.4	+0.8	7.8	1,25	0	61.0	+32.8	50.8	25	2	-1.0	5.1	4.6	-7.8	0	2	0	0	0	0	0	0	0	0	0	0				
Katmandu (Hydromet)	24.4	..	28.2	24	7.6	..	1.5	6	1.7	21.2	..	9.8	30	3	..	3.5	2.0	..	0	4	0	0	4	0	0	0	0	0	0	0				
Mukteswar (Kumaon).	18.6	+3.4	22.2	24	7.9	+2.0	3.0	31	23.2	45.0	-3.3	24.0	31	3	-1.1	16.6	16.1	+6.0	0	3	0	2	5	1	0	7	0	0	0					
Nainital .	17.9	..	21.2	24	8.2	..	3.3	6	16.0	37.5	..	19.0	31	3	..	10.9	8.8	..	0	3	0	0	0	0	0	0	0	0	0	0				
Joshimath .	19.8	..	24.9	24	7.8	..	2.2	31	39.4	106.5	..	33.4	30	6	..	8.2	9.5	..	1	6	0	4	3	0	0	0	0	0	0	0				
Badrinath .									Closed during winter months																									
Lokpal .	-0.2	..	0.9	24	-5.5	..	-7.2	4	..	112.2	..	30.0	3,26	5	..	..	..	..	0	6	0	0	0	0	0	0	0	0	0	0
Mussooree .	18.7	+3.3	23.4	29	9.2	+2.1	3.5	6	18.4	38.6	-18.8	17.4	27	3	-0.7	10.3	8.2	+0.6	0	4	0	2	5	0	0	0	0	0	0	0				
Simla .	16.8	+2.9	22.3	24	8.2	+1.8	2.2	5	46.5	72.5	+12.6	26.2	26	5	+0.3	6.4	5.1	+2.2	1	5	0	3	3	0	0	0	0	0	0	0				
Dharampore .	..	..	..	..	..	..	..	..	..	36.7	-11.3	22.2	31	3	+0.1	..	..	..	0	4	0	..	..	..	..	..	..	..	..	..
Dalhousie .	21.0	..	30.7	24	11.0	..	4.4	31	76.8	173.4	+75.1	149.6	31	4	-1.9	4.1	5.6	..	0	4	0	0	0	0	0	0	0	0	0	0				
Dharamshala .	22.5	..	28.3	24	14.2	..	8.4	7	22.6	58.4	..	56.2	31	1	..	4.8	3.5	..	0	2	0	0	0	3	0	0	0	0	0	0				
Abu .	27.5	+2.7	32.2	21,22, 23	17.7	+1.6	13.9	13	0	0	-4.3	0	..	0	-0.5	9.8	9.4	+2.2	0	0	0	0	0	0	0	0	0	0	0	0				
Pachmarhi .	31.4	+2.5	35.3	30	14.5	-0.7	9.7	14	0	0	-14.2	0	..	0	-1.3	8.0	5.2	-0.4	0	0	0	0	0	0	0	0	0	0	0	0				
Mahabaleshwar .	30.1	+2.1	32.2	25	19.1	+2.1	15.5	6	0	0	-4.3	0	..	0	-0.4	11.5	11.7	+1.1	0	0	0	0	0	0	0	0	0	0	0	0				
Nandi Hills .	28.9	..	30.0	26,28, 29	17.7	..	15.0	21	..	0	..	0	..	0	..	..	12.7	..	0	0	0	0	0	0	0	0	0	0	0	0		
Mercara .	29.6	+0.6	31.8	30	17.2	+0.8	14.6	7	0	0	-19.3	0	..	0	-1.6	11.2	8.3	+3.3	0	0	0	0	0	0	0	0	0	0	0	0				
Kodaikanal .	20.7	+1.7	23.3	28	9.6	-0.5	7.3	20	0	0	-46.0	0	..	0	-3.1	16.6	16.1	+2.9	0	0	0	0	0	0	0	0	0	0	0	0				
Ootacamund .	22.7	+1.6	24.5	28,31	6.2	-2.6	3.9	9	0	0	-32.5	0	..	0	-2.6	6.9	4.3	-1.0	0	0	0	0	0	0	0	0	0	0	0	0				
Coonoor .	23.9	+1.2	25.3	26	10.9	-0.4	8.4	17	..	3.6	-78.7	3.6	23	1	-1.8	..	6.6	+1.0	0	1	0	0	0	0	0	0	0	0	0	0				
Sikkim																																		
Lachen (R)																																		
Tibet																																		
Yatung (Chumbi)	13.1	+2.2	15.0	17,29, 31	0.1	+2.6	-6.7	1	..	42.0	-10.3	17.8	3	4	-4.1	..	..	..	0	7	2	0	0	0	0	0	0	0	0	0	
Lhasa .	(e) 10.7	..	..	..	(e) 2.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ceylon																																		
Colombo .	31.8	+0.2	33.9	20	23.3	-0.1	21.0	10	1.8	12.7	-96.0	8.4	23	2	-4.1	..	..	..	0	2	0										

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in inches.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed Km. per hour	Wind speed (Kms. p.h.)			No. of observations										
			At mean sea level or height in ft. or nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bay Islands																												
Maya Bandar	0830	28	1013.2	1010.4	..	27.9	24.5	22.8	28.0	75	..	2.5	..	2.6	0	0	17	3	9	1	0	0	0	0	0	3	14	1
	1730	"	1010.4	1007.6	..	27.8	24.3	23.1	27.5	76	..	3.1	..	4.8	0	0	22	0	17	0	0	0	0	0	0	0	9	5
Long Island	0830	33	1012.8	1009.1	..	27.8	24.4	22.9	27.9	75	..	3.4	..	0.4	0	0	4	0	1	0	0	0	1	1	1	27	0	
	1730	"	1009.8	1006.1	..	28.2	24.2	22.5	26.9	71	..	2.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Port Blair	0530	79	1011.5	1002.4	..	23.5	22.7	22.3	27.4	93	..	3.5	..	2.1	0	0	11	3	2	3	1	0	0	2	0	20	0	
	0830	"	1013.3	1004.5	+1.4	29.4	25.0	23.0	28.1	69	-3	3.5	+0.6	9.2	0	0	31	5	16	9	1	0	0	0	0	0	0	0
	1130	"	1011.9	1003.2	..	31.2	25.5	22.7	28.0	62	..	3.5	..	12.5	0	0	31	0	14	16	1	0	0	0	0	0	0	0
	1730	"	1010.3	1001.4	..	27.3	24.2	22.7	27.6	76	..	4.0	..	8.9	0	0	30	0	17	12	1	0	0	0	0	1	0	
	2330	"	1011.8	1002.8	..	25.2	23.5	22.7	27.6	39	..	2.7	..	4.9	0	0	20	2	8	7	1	0	1	0	1	11	0	
Car Nicobar	0830	10	1012.5	1011.3	..	29.6	25.0	23.1	28.0	67	..	4.1	0	0	31	0	21	10	0	0	0	0	0	0	0	0
	1730	"	1009.4	1008.2	..	27.9	24.7	23.3	28.4	76	..	4.3	0	0	27	0	20	5	0	0	0	0	0	0	4	2
Nancowry	0830	26	1012.6	1009.7	..	29.4	26.0	24.3	30.8	74	..	5.2	..	0.7	0	0	3	0	0	0	2	1	0	0	0	0	28	0
	1730	"	1009.7	1006.6	..	28.0	25.0	23.7	29.2	78	..	4.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Kondul	0830	8	1012.5	1011.7	..	28.3	25.7	24.4	30.8	80	..	5.0	..	6.3	0	0	21	0	20	0	1	0	0	0	0	0	10	0
	1730	"	1010.1	1009.1	..	27.8	25.6	24.6	30.9	82	..	5.8	..	6.7	0	0	21	0	21	0	0	0	0	0	0	0	10	0
Assam (Including Manipur, Tripura)																												
Pasighat	0830	157	1014.5	996.4	..	19.7	16.6	14.1	16.5	71	..	4.7	..	19.1	0	14	17	14	0	0	0	0	0	0	0	17	0	0
	1730	..	1010.5	992.5	..	20.4	18.2	16.7	19.2	80	..	4.6	..	4.9	0	4	14	3	1	0	2	1	0	2	9	13	0	
Digboi	0830	..	..	..	..	19.2	17.0	15.2	17.6	78	..	5.0	..	3.0	0	0	30	3	9	1	2	6	3	3	3	0	0
	1730	..	..	..	..	23.3	19.1	16.2	18.7	66	..	4.7	..	3.0	0	0	31	2	7	2	9	6	3	1	1	0	0
Dibrugarh	0830	106	1014.1	1001.8	+0.7	21.3	17.5	14.9	16.9	68	-8	5.0	+0.8	3.6	0	0	30	7	13	10	0	0	0	0	0	1	0	
	1730	"	1009.7	997.6	..	22.4	18.4	15.7	18.0	68	..	3.8	..	1.8	0	0	14	3	7	3	1	0	0	0	0	0	17	0
Dibrugarh (Mohan bari Aerodrome)	0230	111	1011.5	998.5	..	16.5	15.5	14.7	16.9	80	..	4.4	..	4.3	0	0	13	4	5	1	1	1	1	0	0	18	0	
	0530	"	1012.4	999.2	..	15.7	14.9	14.2	16.3	92	..	5.4	..	2.9	0	0	14	2	7	2	1	0	1	0	1	17	0	
	0830	"	1014.3	1001.5	..	20.9	17.3	14.9	16.8	70	..	4.7	..	7.6	0	0	28	1	18	9	0	0	0	0	0	3	0	
	1130	"	1012.7	1000.0	..	24.3	18.5	14.6	16.6	56	..	4.0	..	9.0	0	2	26	0	19	4	4	0	1	0	0	3	0	
	1730	"	1010.0	997.3	..	22.2	18.3	15.7	17.9	68	..	4.3	..	2.9	0	0	16	3	8	2	1	0	0	1	1	15	0	
	2330	"	1012.2	999.2	..	17.4	16.2	15.3	17.7	88	..	4.2	..	3.3	0	0	12	0	9	1	0	0	1	0	1	19	0	
North Lakhimpur	0830	102	1014.0	1002.1	..	20.4	18.0	16.1	18.7	75	..	4.0	..	5.8	0	0	29	6	3	13	5	1	1	0	0	2	0	
	1130	"	1012.6	1000.9	..	24.8	19.2	15.4	17.8	58	..	3.4	..	10.0	0	2	29	1	2	14	12	1	1	0	0	0	0	
	1730	"	1009.6	997.9	..	22.1	19.3	17.5	20.2	76	..	3.8	..	6.0	0	0	30	6	9	5	2	0	2	0	6	1	0	
Sibsagar	0830	97	1014.7	1003.9	+2.0	20.9	18.2	16.6	18.6	78	-3	5.3	+0.3	3.5	0	0	22	8	9	1	1	2	1	0	0	9	0	
	1730	"	1010.3	999.4	..	23.5	19.8	17.8	20.3	72	..	4.4	..	2.7	0	0	16	6	6	0	3	0	1	0	0	15	0	
Jorhat	0530	90	1011.7	1001.2	..	16.0	15.7	15.4	17.7	97	..	3.8	..	3.3	0	0	12	3	7	0	0	0	0	0	2	19	0	
	0830	"	1013.8	1003.4	..	20.7	18.3	16.9	19.1	79	..	3.6	..	8.2	0	3	22	5	15	4	0	0	0	0	1	6	0	
	1130	"	1012.2	1002.0	..	24.8	19.5	16.2	18.4	60	..	2.7	..	13.6	0	4	27	7	17	3	1	0	0	1	2	0	0	
	1730	"	1009.2	998.8	..	23.0	19.1	16.6	19.0	68	..	3.1	..	7.7	0	1	23	7	13	2	0	0	0	0	2	7	0	
Galghat	0830	..	..	..	..	20.4	17.8	15.5	18.7	76	..	5.5	..	0.6	0	0	7	0	0	0	5	0	0	0	2	23	0
	1730	..	..	..	..	25.4	20.0	16.0	19.7	61	..	5.5	..	0.5	0	0	3	0	0	0	3	0	0	0	0	27	0
Johpur	0830	..	..	..	..	19.9	17.8	16.4	18.7	81	..	..	..	3.0	0	0	31	3	6	15	6	1	0	0	0	0	0
	1730	..	..	..	..	24.1	20.9	19.1	22.1	74	..	..	..	3.0	0	0	31	1	12	15	1	0	0	0	2	0	0
Tezpur	0830	79	1013.7	1004.6	+0.4	22.1	18.2	15.6	17.8	68	-3	2.5	0	3.0	0	0	22	0	14	3	0	0	0	0	0	9	5	
	1730	"	1009.3	1000.4	..	25.8	19.4	15.2	17.4	54	..	2.9	..	1.0	0	0	10	0	5	4	1	0	0	0	0	21	0	
Tezpur (P.B.O.)	0230	78	1011.2	1002.0	..	18.2	16.7	15.9	17.7	85	..	3.2	..	4.5	0	0	22	0	12	10	0	0	0	0	0	9	0	
	0530	"	1012.1	1002.9	..	17.5	16.2	15.0	17.4	86	..	4.1	..	5.1	0	0	24	2	14	7	0	0	1	0	0	7	0	
	0830	"	1014.1	1005.0	..	22.1	18.5	15.3	18.4	68	..	3.0	..	8.5	0	1	30	0	10	18	0	0	0	0	2	0	1	
	1130	"	1012.5	1003.6	..	26.1	19.6	15.4	17.3	54	..	2.1	..	9.5	0	2	28	0	5	18	7	0	0	0	1	0		
	1730	"	1009.6	1000.6	..	24.5	19.3	15.7	18.1	61	..	3.3	..	3.7	0	1	17	0	5	11	1	0	1	0	0	13	0	
	2330	"	1011.9	1002.8	..	20.2	17.6	15.7	17.9	76	..	3.4	..	5.5	0	0	25	1	13	11	0	0	0	0	0	6	0	
Majbat	0830	..	..	..	..	..	..	..	..	..	..	3.1	..	11.2	0	0	29	1	11	15	1	1	0	0	0	1	0
	17																											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MARCH, 1959. (PHALGUNA 10, 1880—CHAITRA 10, 1881 SAKA) 127

Division and station	Hour of observation I.S.T.	Height of barometer (corrected) above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Cloud amount (Oktas)		Mean wind speed in Kms. per hour	Wind speed (Km. p.h.).			No. of observations											
			At mean sea level or height in g.p. m. or nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point			Departure from normal	Mean amount		Departure from normal	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm.	Variable.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Assam (Including Manipur, Tripura) —Contd. Gauhati	0830	55	1013.2	1006.8	+0.7	26.4	17.2	16.1	17.1	77	+7	2.8	+0.5	2.3	0	0	24	0	19	4	1	0	0	0	0	0	7	0
	1730	"	1008.6	1002.3	..	26.9	20.1	15.5	17.8	52	..	3.8	..	0.7	0	0	7	0	4	2	0	0	1	0	0	0	24	0
Gauhati (Bhorjor Aerodrome)	0230	54	1010.2	1003.9	..	17.5	16.0	15.2	17.0	87	..	2.6	..	3.7	0	1	13	1	9	2	0	1	1	0	0	17	0	
	0530	"	1010.9	1004.6	..	16.2	15.3	14.5	16.8	91	..	3.1	..	3.4	0	0	15	1	8	3	0	1	1	0	1	16	0	
	0830	"	1013.2	1006.9	..	21.7	18.0	15.5	18.9	69	..	2.8	..	6.0	0	0	23	0	14	8	0	0	0	0	0	1	8	0
	1130	"	1011.7	1005.6	..	26.7	19.6	14.1	17.1	51	..	2.0	..	10.9	0	1	30	10	18	1	0	0	0	2	0	0	0	0
	1730	"	1008.3	1002.2	..	26.5	19.1	13.8	16.1	51	..	3.9	..	2.6	0	0	19	3	7	2	0	1	0	1	5	12	0	0
Rangiya	0830	..	..	..	..	21.1	18.0	15.8	18.1	74	..	2.7	..	9.7	0	0	30	1	3	21	5	0	0	0	0	0	0	0
	(R)* 1730	..	..	..	..	26.7	20.4	16.8	19.0	59	..	1.8	..	2.9	0	0	15	1	3	7	1	0	0	1	2	15	0	
Goalpara	0830	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(R) 1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dhubri	0830	35	1013.6	1009.6	+1.4	24.0	19.2	16.6	18.1	69	+3	1.7	-0.1	4.3	0	0	19	0	17	2	0	0	0	0	0	0	12	0
	1730	"	1009.0	1005.1	..	26.0	19.5	14.8	17.4	53	..	1.5	..	1.6	0	0	10	0	7	0	0	0	3	0	0	0	21	0
Dhubri (Rupsi Aerodrome)	0530	36	1009.9	1005.7	..	16.9	15.6	14.5	16.5	86	..	2.4	..	3.0	0	0	17	1	9	6	0	0	1	0	0	0	14	0
	0830	"	1012.3	1003.2	..	23.1	18.6	15.7	17.8	64	..	2.2	..	8.6	0	0	30	0	4	16	5	1	2	0	0	0	1	2
	1130	"	1011.0	1007.0	..	28.1	20.2	14.9	17.5	47	..	1.6	..	12.0	0	1	30	0	2	12	10	1	2	2	2	0	0	0
	1730	"	1007.6	1003.5	..	26.2	19.7	15.4	17.6	55	..	1.9	..	2.7	0	0	11	2	1	3	1	0	2	1	1	20	0	0
Tura	0830	370	1013.9	971.9	..	21.6	16.4	11.2	14.4	55	..	2.2	..	3.5	0	0	24	0	0	9	9	3	1	0	0	2	7	0
	1730	"	1008.2	968.2	..	28.0	18.5	12.0	14.4	44	..	3.5	..	6.2	0	0	29	0	0	1	0	6	17	4	1	2	0	0
Agartala	0230	16	1009.6	1007.7	..	20.1	18.8	18.0	20.6	88	..	2.3	..	7.3	0	7	16	0	0	1	16	5	0	0	0	1	8	0
	0530	"	1010.4	1008.6	..	19.3	18.4	17.8	21.1	91	..	2.8	..	6.0	0	2	23	1	1	2	12	9	0	0	0	0	6	0
	0830	"	1012.4	1010.5	..	24.8	20.9	18.6	20.7	90	..	3.1	..	8.1	0	2	28	2	1	0	9	14	2	1	1	1	0	0
	1130	"	1011.6	1009.8	..	29.9	21.3	16.0	18.4	47	..	2.7	..	11.8	0	2	28	3	1	0	1	8	12	3	2	1	0	0
	1730	"	1008.3	1006.5	..	28.1	20.2	14.7	17.3	48	..	2.5	..	8.0	0	2	24	0	0	3	5	9	6	2	1	5	0	0
	2330	"	1010.7	1008.8	..	21.4	19.2	17.8	20.4	81	..	2.2	..	7.1	0	2	23	0	0	3	14	6	1	0	1	6	0	0
Kailashar(C.W.O.)	0530	29	1012.4	1009.0	..	18.4	17.6	17.0	19.4	91	..	1.9	..	6.6	0	1	22	0	0	0	0	22	0	1	0	8	0	0
	0830	"	1013.7	1010.3	..	22.6	19.6	17.6	20.4	75	..	2.0	..	7.2	0	0	28	0	2	1	1	15	8	0	1	3	0	0
	1130	"	1012.6	1009.3	..	29.0	21.6	16.9	19.4	51	..	2.1	..	8.9	0	1	29	3	0	2	1	12	7	0	5	1	0	0
	1730	"	1009.4	1006.1	..	27.2	21.0	17.9	19.8	56	..	2.0	..	4.1	0	0	17	4	1	0	0	5	3	1	3	14	0	0
Silchar	0830	29	1014.0	1010.6	+0.7	22.4	18.8	16.3	18.7	70	-2	2.7	0	3.4	0	0	28	1	9	12	5	1	0	0	0	3	0	0
	1730	"	1009.7	1006.4	..	25.9	20.9	17.9	20.6	63	..	2.3	..	0.9	0	0	6	0	2	2	1	0	1	0	0	25	0	0
Silchar (Kumbhigram Aerodrome)	0530	97	1010.6	999.3	..	17.3	15.9	14.6	17.0	85	..	3.0	..	9.2	0	2	29	1	3	24	2	0	0	1	0	0	0	0
	0830	"	1012.5	1001.4	..	21.5	18.0	15.6	17.8	71	..	3.0	..	9.7	0	2	29	0	2	22	7	0	0	0	0	0	0	0
	1130	"	1011.3	1000.3	..	26.0	19.6	15.5	17.6	55	..	2.6	..	8.3	0	0	31	0	1	14	8	3	3	1	1	0	0	0
	1730	"	1008.1	997.2	..	25.5	19.8	16.0	18.5	58	..	2.4	..	3.8	0	0	18	0	4	6	1	0	1	4	2	13	0	0
Imphal	0530	801	1015.9	924.5	..	11.8	11.2	10.7	12.9	93	..	3.1	..	1.3	0	0	9	0	2	2	1	0	2	2	0	22	0	0
	0830	"	1015.7	926.1	..	17.6	14.3	11.7	13.8	69	..	2.9	..	2.6	0	0	21	0	2	2	4	9	2	2	0	10	0	0
	1130	"	1012.4	924.4	..	22.5	16.3	12.2	14.1	55	..	3.1	..	9.7	0	3	26	0	1	0	3	16	8	1	0	2	0	0
	1730	"	1010.1	922.1	..	21.4	14.9	9.6	12.3	50	..	3.2	..	5.7	0	0	23	1	0	2	0	2	5	10	3	8	0	0
	2330	"	1014.7	924.2	..	14.6	13.2	12.1	14.2	85	..	3.6	..	2.5	0	0	16	1	1	0	2	3	5	2	2	15	0	0
Haflong	0830	682	1013.1	936.9	..	20.3	15.6	12.1	14.2	61	..	2.5	..	9.0	0	1	30	1	6	0	1	9	13	1	0	0	0	0
	1730	"	1008.7	933.3	..	22.3	15.9	11.0	13.4	53	..	3.3	..	10.1	0	4	27	0	0	0	1	5	25	0	0	0	0	0
Lumding	0830	149	1013.9	996.1	..	21.6	17.6	14.6	16.7	70	-6	2.3	..	1.8	0	0	11	0	5	3	2	0	1	0	0	20	0	0
	1730	"	1008.6	992.1	..	26.5	19.1	13.8	16.2	53	..	4.3	..	2.8	0	0	11	0	2	3	2	1	2	0	1	20	0	0
Sub-Himalayan West Bengal	Cooch Behar (C.W.O.)	0830	43	1014.7	1008.0	..	22.7	18.0	14.6	16.9	62	..	2.0	..	14.0	0	3	27	0	8	19	2	1	0	0	0	1	0
		1130	"	1013.4	1006.8	..	27.8	19.5	13.7	15.8	45	..	1.9	..	11.1	0	3	27	0	2	15	8	2	2	0	0	1	1
		1730	"	1010.1	1003.5	..	26.3	19.5	14.7	17.2	51	..	2.1	..	3.3	0	0	11	1	2	3	1	2	0	1	1	20	0
Jalpaiguri	0830	83	1013.4	1003.7	+1.4	20.1	16.8	14.2	16.5	70	0	1.3	-0.2	7.1	0	2	26	10	7	9	1	0	0	1	0	3	0	0
	1730	"	1008.5	999.1	..	28.3	18.6	10.4	13.5	37	..	1.3	..	6.3	0	0	25	1	3	4								

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C					Relative humidity %	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs	Departure from normal		Mean amount	Departure from normal	Mean wind speed, in Km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Sub-Himalayan (West-Bengal)—Contd. Malda	0830	51	1012.5	1008.8	+1.6	25.0	18.1	12.5	15.1	50	+1	1.9	+0.8	7.6	0	0	30	1	4	4	5	4	4	3	5	1	0
	1730		1008.1	1004.6		29.5	19.7	12.2	15.0	38		1.1		6.9	0	0	29	3	4	5	2	0	1	3	11	2	0
Gangetic West Bengal Dum Dum	0230	6	1009.2	1008.4		22.1	21.5	21.1	25.2	94		2.1		5.1	0	0	26	3	1	2	0	8	5	6	1	5	0
	0530		1009.9	1009.1		21.0	20.5	20.2	23.7	95		3.6		4.0	0	0	24	4	2	2	4	4	3	3	2	7	0
	0830		1012.1	1011.3		26.4	22.8	20.7	24.8	74		2.3		6.8	0	0	29	4	2	0	5	6	6	5	1	2	0
	1130		1011.1	1010.4		32.1	23.1	17.7	20.8	45		1.4		7.5	0	0	31	3	2	1	0	8	10	5	2	0	0
	1730		1007.8	1007.1		30.3	23.0	18.8	22.2	53		1.6		6.5	0	1	22	1	0	0	2	12	5	2	1	8	0
	2330		1010.1	1009.3		23.3	22.2	21.5	25.9	92		1.3		7.2	0	0	25	0	0	1	3	10	9	1	1	6	0
Calcutta	0830	6	1011.9	1011.2	+0.1	26.5	22.4	20.1	23.7	70	-6	1.9	-0.3	8.5	0	0	28	0	3	1	2	4	12	2	4	3	0
	1130		1011.0	1010.3		32.6	21.7	14.4	17.2	37		1.2		12.1	0	4	26	1	1	2	2	2	13	5	4	1	0
	1730		1007.7	1007.0		31.1	21.5	14.9	17.8	41		1.3		10.8	0	5	22	1	0	0	3	7	10	5	1	4	0
Barrackpore	0530	7	1009.9	1009.1		20.9	20.0	19.3	22.7	91		2.5		2.8	0	0	11	2	0	0	3	2	3	1	0	20	0
	0830		1012.3	1011.5		26.3	22.3	19.6	23.7	70		2.0		7.3	0	0	24	0	1	2	2	5	9	4	1	7	0
	1130		1011.3	1010.5		32.0	22.9	17.1	23.4	43		1.1		11.6	0	2	27	2	1	1	3	3	8	7	4	2	0
	1730		1007.8	1007.0		30.3	22.8	18.4	21.6	51		1.4		8.0	0	4	16	0	0	2	2	6	2	3	5	11	0
Saugor Island	0830	3	1011.5	1011.2	-0.3	27.2	24.5	23.2	28.5	79	+6	4.0	+1.0	18.8	0	12	18	2	1	0	1	6	13	5	2	1	0
	1730		1008.1	1007.8		27.8	24.5	23.0	28.1	76		1.8		21.4	0	12	19	0	1	0	3	15	12	0	0	0	0
Sandheads	0530	10	1009.6	1008.5		26.2	24.3	23.5	28.8	85		2.3			0	13	18	0	0	0	0	4	20	5	2	0	0
	0830		1011.9	1010.8	-0.3	27.3	24.6	23.2	28.6	79	+5	1.7	-0.5		0	9	21	0	0	0	0	4	22	2	2	1	0
	1130		1011.5	1010.4		28.1	24.8	23.1	28.6	75		1.7			0	6	24	1	0	0	0	3	19	5	2	1	0
	1730		1008.5	1007.4		27.7	24.6	23.1	28.3	77		1.6			0	12	19	0	0	0	1	10	19	0	1	0	0
Contai	0830	11	1011.6	1010.4		27.6	23.3	20.6	25.3	69		1.9		7.0	0	1	27	4	1	0	0	8	15	0	0	3	0
	1730		1008.3	1007.1		28.0	24.3	22.4	27.5	73		1.9		11.0	0	3	27	0	0	0	0	27	3	0	0	1	0
Midnapore	0830	45	1012.0	1006.8	+0.2	27.3	20.7	15.8	19.0	54	-5	0.7	-1.1	5.0	0	0	28	4	4	2	1	4	12	0	1	3	0
	1730		1007.2	1002.2		32.8	20.3	9.4	13.6	29		1.3		6.7	0	0	28	3	4	1	0	8	7	2	3	3	0
Purulia	0830	255	1012.6	984.0		25.6	17.4	9.7	13.3	40		0.5		3.3	0	0	24	6	1	0	2	2	4	3	6	7	0
	1730		1007.1	979.4		32.3	18.2	5.8	9.4	21		0.3		2.5	0	0	20	4	0	0	2	3	0	3	8	11	0
Burdwan	0830	32	1010.9	1007.2	-0.8	26.5	22.8	20.5	24.7	71	+8	0.8	-1.5	0.8	0	0	5	0	0	0	0	2	1	2	0	26	0
	1730		1010.3	1006.7		31.9						1.5		2.7	0	0	15	4	0	2	1	5	3	0	0	16	C
Krishnagar	0830	15	1012.4	1010.7	+0.7	27.1	20.3	15.8	18.3	53	-10	1.1	-1.3	2.4	0	0	20	0	0	1	1	13	0	4	1	11	C
	1730		1008.2	1006.6		31.3	20.2	12.4	14.6	34		0.8		1.7	0	0	13	0	0	0	1	11	0	1	0	18	0
Asansol	0230	126	1009.3	994.8		22.1	16.8	12.4	14.8	56		0.6		2.6	0	0	13	1	0	2	5	1	1	1	2	18	0
	0530		1010.0	995.4		20.2	16.4	13.1	15.6	66		1.2		2.7	0	0	17	0	2	1	2	1	0	7	4	14	0
	0830		1012.1	997.7	+0.6	25.6	18.7	13.4	15.9	50	+4	1.0	-0.8	5.5	0	0	29	1	4	4	1	1	0	13	5	2	0
	1130		1010.9	996.8		31.9	20.2	11.4	14.1	32		0.7		6.8	0	0	30	3	2	5	3	0	0	11	6	1	0
	1730		1007.2	993.2		32.1	20.0	11.1	13.7	30		0.7		5.1	0	0	24	1	1	2	2	0	1	12	5	7	0
Suri	0830	77	1012.6	1003.8		25.8	17.7	10.7	13.7	44		1.8		6.3	0	0	30	0	5	4	2	4	6	6	3	1	0
	1730		1008.1	999.6		32.3	18.3	6.5	9.8	22		1.8		7.5	0	1	28	0	2	2	1	2	7	11	4	2	0
Berhampore	0830	19	1011.8	1009.7	0	23.9	18.3	14.0	16.6	57	-3	1.7	-0.5	3.4	0	0	20	0	0	5	0	7	1	6	1	11	0
	1730		1007.3	1005.2		31.1	20.1	11.5	14.4	34		1.2		3.1	0	0	14	0	0	7	0	0	1	5	1	17	0
Orissa Baripada	0830	54	1012.8	1006.7		25.6	19.9	15.7	18.7	56		0.4		3.2	0	0	21	6	1	0	2	2	5	1	4	10	0
	1730		1008.0	1002.0		32.5	22.1	15.2	18.0	38		0.8		4.3	0	0	26	2	1	2	10	5	2	1	3	5	0
Balasore	0830	20	1011.8	1009.5	-0.2	27.2	21.4	17.4	20.7	60	-7	0.8	-1.1	11.2	0	4	27	6	2	0	0	8	13	1	1	0	0
	1730		1007.9	1005.7		29.1	23.6	20.7	24.6	62		1.3		10.1	0	3	28	0	0	0	14	17	0	0	0	0	0
Chandbali	0830	6	1012.5	1011.8	+0.6	27.3	23.8	22.1	26.6	73	-3	1.3	-1.3	6.4	0	0	27	1	0	0	1	9	9	3	4	4	0
	1730		1008.6	1007.9		30.5	23.1	19.3	22.1	53		0.8		8.1	0	0	31	0	0	1	22	5	3	0	0	0	0
Cuttack	0830	27	1012.1	1009.2	0	25.3	22.9	21.5	25.7	80	+7	2.7	+0.2	4.7	0	3	4	0	0	0	0	2	4	1	0	24	0
	1730		1007.6	1004.6		32.7	22.7	16.2	19.4	40		0.5		13.3	0	5	15	0	0	0	0	15	5	0	0	11	0
Bhubaneswar	0230	46	1009.3	1004.0		23.9	22.6	21.9	26.2	89		2.0		16.4	0	10	20	0	0	0	1	5	23	1	0	1	0
	0530		1010.0	1004.6		23.2	21.8	20.9	25.0	88		2.8		12.8	0	8	22	2	1	0	1	4	19	3	0	1	0
	0830		1012.3	1007.0		26.8	22.8	20.4	24.5	70		2.3		15.9	0	7	22	4	0	0	0	4					

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in gpm of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Orissa—Contd.																												
Bhubaneswar (Contd.)	2330	46	1010.6	1005.3	..	25.2	23.1	22.0	26.5	83	..	1.4	..	19.1	0	12	19	0	0	0	0	9	21	1	0	0	0	0
Puri	0830	6	1012.6	1011.9	+0.5	27.5	25.4	24.7	30.7	83	+6	1.9	-0.4	20.9	0	17	14	2	1	0	0	0	25	3	0	0	0	0
Gopalpur	0530	17	1010.2	1008.3	..	22.6	21.2	20.2	24.0	88	..	0.5	..	11.0	0	7	15	3	0	0	0	3	11	0	5	9	0	
Koraput	0830	913	1012.5	1010.6	+0.6	26.2	22.3	20.0	23.7	71	-3	0.2	-0.8	10.4	0	8	12	4	0	0	0	5	10	0	1	11	0	
Titilagarh	0830	211	1011.8	1009.9	..	29.5	24.8	22.5	27.3	67	..	0.1	..	18.8	0	10	21	0	0	0	5	14	11	0	1	0	0	
Bolangir	0830	190	1008.7	1006.8	..	26.9	24.8	23.8	29.5	83	..	0.6	..	25.9	0	22	9	0	0	0	2	14	15	0	0	0	0	
Angul	0830	130	1010.5	1008.6	..	24.9	23.5	22.7	27.8	88	..	0	..	23.5	0	19	9	0	0	0	0	7	20	1	0	3	0	
Keonjhar	0830	463	1529.8	912.8	..	21.8	15.8	11.8	13.0	53	..	0	..	..	0	0	31	0	0	0	0	0	31	0	0	0	0
Sambalpur	0830	148	1012.0	997.9	..	25.9	17.2	10.4	13.3	41	..	0.1	..	3.9	0	0	27	6	4	1	1	4	1	2	8	4	0	
Jharsuguda	0830	230	1006.5	983.6	..	35.9	19.8	6.9	11.3	18	..	0.2	..	2.3	0	0	23	7	8	0	2	4	1	0	1	8	0	
Jamshedpur	0830	129	1010.3	989.8	..	26.1	13.5	12.7	15.2	45	..	0.4	..	4.2	0	0	31	6	2	4	5	5	6	0	3	0	0	
Bihar Plateau	0830	130	1003.1	987.4	..	33.9	20.0	9.3	12.1	25	..	0.4	..	4.5	0	0	31	12	5	1	2	1	2	0	8	0	0	
Jamshedpur (P.B.O.)	0830	145	1012.7	996.9	+0.6	24.8	18.7	13.9	16.6	53	-7	0.5	-1.8	3.8	0	0	22	2	4	3	0	0	2	6	5	9	0	
Daltonganj	0830	221	1007.0	991.8	..	35.0	18.8	3.2	8.5	16	..	0.3	..	8.4	0	3	26	6	3	0	3	1	3	7	6	2	0	
Hazaribagh	0830	611	1012.0	995.7	..	25.9	17.2	10.4	13.3	41	..	0.1	..	3.9	0	0	27	6	4	1	1	4	1	2	8	4	0	
Dhanbad	0830	257	1006.7	953.7	..	32.3	17.9	6.5	10.0	21	..	0.6	..	5.6	0	0	31	3	5	0	1	2	1	10	9	0	0	
Dumka	0830	149	1012.2	995.4	+0.1	26.9	17.9	10.6	13.3	37	-14	0.2	-1.2	2.4	0	0	16	4	2	1	2	4	3	0	0	15	0	
Bihar Plains	0830	38	1007.1	990.8	..	33.6	19.8	9.3	11.8	23	..	0.1	..	1.7	0	0	10	0	0	0	0	1	1	3	5	21	0	
Purnea	0830	652	1012.2	995.4	+0.1	26.9	17.9	10.6	13.3	37	-14	0.2	-1.2	2.4	0	0	16	4	2	1	2	4	3	0	0	15	0	
Forbesganj	0830	61	1007.3	990.8	..	33.6	19.8	9.3	11.8	23	..	0.1	..	1.7	0	0	10	0	0	0	0	1	1	3	5	21	0	
Darbhanga	0830	49	1010.3	983.8	..	19.0	13.6	8.7	11.1	52	..	0.2	..	4.2	0	0	26	11	9	3	1	2	0	0	0	5	0	
Patna	0830	66	1012.1	936.2	..	25.5	16.2	8.2	10.8	35	..	0.2	..	4.9	0	0	23	10	7	2	1	1	1	0	1	8	0	
	1730	..	1010.6	985.3	..	33.0	18.6	6.3	9.7	19	..	0.3	..	8.5	0	1	28	9	5	2	0	4	3	5	1	2	0	
	1730	..	1006.7	981.5	..	33.3	18.4	5.4	8.9	18	..	0.3	..	8.4	0	1	25	2	0	0	3	7	3	8	3	5	0	
	2330	..	1009.7	983.7	..	24.2	15.8	8.4	11.1	37	..	0.1	..	3.9	0	0	20	6	2	4	1	1	2	1	3	11	0	
Jamshedpur	0830	129	1012.1	997.4	+0.3	24.3	17.2	11.1	13.1	45	-7	0.4	-1.4	3.5	0	0	28	1	1	0	0	0	1	16	9	3	0	
Jamshedpur (P.B.O.)	0830	145	1006.6	992.4	..	33.8	13.0	6.1	10.0	19	..	0.4	..	4.6	0	0	27	3	2	7	0	0	2	5	8	4	0	
	0830	..	1010.2	993.5	..	20.2	15.4	11.1	3	56	..	0.3	..	1.9	0	0	15	2	1	1	0	0	1	7	3	16	0	
	0830	..	1011.9	995.5	..	26.1	17.4	9.5	12.8	38	..	0.4	..	3.2	0	0	25	2	1	0	1	1	5	8	7	6	0	
	1130	..	1010.5	994.4	..	32.9	19.4	7.7	11.7	24	..	0.3	..	5.6	0	1	23	1	4	0	2	2	5	4	6	7	0	
	1730	..	1006.6	990.5	..	33.5	18.6	5.3	9.2	19	..	0.8	..	4.2	0	0	23	5	7	1	1	0	2	1	6	8	0	
	2330	..	1009.8	993.3	..	24.7	17.3	10.4	13.7	43	..	0.6	..	3.4	0	0	22	2	5	4	1	0	3	3	4	9	0	
Chaubasa	0830	226	1012.3	986.6	+0.5	25.9	17.8	10.9	13.8	41	-17	0.4	-1.3	1.5	0	0	16	0	1	0	0	0	14	0	1	15	0	
Ranchi	0830	655	1006.4	981.7	..	33.4	18.6	6.9	9.5	21	..	0.8	..	1.0	0	0	8	0	3	0	0	3	0	2	23	0		
Ranchi (C.W.O.)	0830	652	1010.3	938.5	-0.3	26.3	16.9	10.5	12.4	38	-1	0.3	-1.3	0.7	0	0	6	4	0	0	1	1	0	0	0	25	0	
	1730	..	1007.8	936.7	..	28.1	16.9	8.4	11.1	32	..	0.3	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0	
	0530	652	1010.7	937.3	..	17.8	11.6	5.3	8.6	46	..	0.5	..	1.7	0	0	10	6	0	1	0	0	2	1	0	21	0	
	0830	..	1011.3	939.5	..	24.7	14.5	4.6	8.3	30	..	0.3	..	3.5	0	0	16	7	0	1	0	1	2	1	4	15	0	
	1130	..	1010.0	939.4	..	29.2	15.5	1.9	6.6	20	..	0.6	..	7.3	0	1	25	10	1	1	0	1	1	7	5	5	0	
	1730	..	1006.4	936.0	..	29.3	15.7	3.1	6.8	21	..	0.8	..	7.5	0	0	22	2	0	0	0	0	1	8	11	1	0	
Daltonganj	0830	221	1012.3	987.2	+0.1	24.1	16.7	11.0	13.0	46	-8	0.2	-1.0	1.6	0	0	16	2	0	4	4	1	1	4	0	15	0	
	1730	..	1007.0	982.5	..	31.3	18.5	7.7	10.9	25	..	0.5	..	3.6	0	0	23	4	3	0	1	0	0	5	10	8	0	
Hazaribagh	0830	611	1011.5	994.0	+0.7	24.7	15.0	6.5	9.2	33	-3	0.7	-1.0	4.1	0	0	22	2	1	0	1	2	6	3	7	9	0	
	1730	..	1006.8	940.0	..	28.9	16.1	4.9	8.0	24	..	0.5	..	9.0	0	1	27	6	0	2	0	0	0	1	19	3	0	
Dhanbad	0830	257	1011.9	982.9	..	25.5	17.8	11.8	14.1	44	..	0.6	..	7.1	0	0	31	4	1	4	1	5	4	8	4	0	0	
	1730	..	1007.3	979.0	..	31.4	20.0	11.2	14.1	31	..	4.5	..	3.8	0	0	24	4	1	2	0	3	0	8	6	7	0	
Dumka	0830	149	1012.3	995.4	-0.7	26.3	18.8	13.3	15.6	47	+3	0.7	-0.5	3.2	0	0	21	1	1	5	1	0	0	13	0	10	0	
	1730	..	1007.4	990.9	..	30.9	20.9	14.2	19.3	35	..	1.0	..	3.9	0	0	25	0	2	5	1	0	0	15	2	6	0	
Bihar Plains	0830	38	1012.6	1008.2	+1.0	22.9	17.7	13.8	15.9	58	-2	1.9	+0.5	4.3	0	0	28	0	3	14	2							

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bihar Plains (Contd.)																											
Patna	0830	53	1011.3	1005.2	-0.3	23.7	17.1	11.5	14.1	49	+3	0.6 (b)	-0.8	7.4 (b)	0	1	26	0	3	6	2	2	11	3	0	4	0
	1730	"	1007.5	1001.6	..	30.7	18.9	9.1	12.3	28	..	0.4	..	5.1	0	0	24	1	2	2	1	0	1	15	2	5	0
Patna (Aerodrome)	0530	60	1009.3	1002.3	..	16.9	14.3	11.8	14.1	73	..	0.7	..	3.5	0	0	13	0	0	8	0	0	3	2	0	18	0
	0830	"	1011.3	1004.4	..	22.8	16.8	11.8	14.2	52	..	0.5	..	9.0	0	1	21	0	1	5	2	0	5	8	1	9	0
	1130	"	1010.7	1004.0	..	29.8	19.0	10.3	13.2	33	..	0.7	..	11.5	0	0	27	0	1	4	5	1	1	13	2	4	0
	1730	"	1006.9	1000.3	..	31.0	19.0	9.1	12.3	28	..	0.4	..	7.1	0	0	20	0	1	2	1	0	0	9	7	11	0
Dehri	0830	107	1011.5	999.3	..	24.4	16.7	10.3	12.7	42	..	0.5	..	3.8	0	0	31	0	0	4	4	2	19	2	0	0	0
	1730	"	1007.0	995.2	..	32.1	18.0	5.1	9.2	20	..	0.1	..	4.0	0	0	31	2	2	2	3	0	0	5	17	0	0
Gaya	0230	116	1009.3	996.3	..	18.9	14.6	11.0	13.6	61	..	0.4	..	4.4	0	0	25	0	2	2	5	7	5	3	1	6	0
	0530	"	1010.1	996.8	..	17.0	13.6	10.3	12.9	66	..	0.3	..	5.4	0	1	23	0	0	2	4	10	5	2	1	7	0
	0830	"	1012.1	998.8	+0.5	23.9	17.5	12.4	14.8	51	+18	0.6	-0.8	8.5	0	1	27	0	1	1	3	7	12	3	1	3	0
	1130	"	1011.3	998.3	..	31.5	20.3	12.1	14.5	32	..	0.7	..	11.0	0	4	24	1	0	3	1	2	4	8	9	3	0
Jamui	0830	82	1011.8	1002.2	..	23.3	17.7	12.8	15.7	54	..	0.8	..	5.1	0	0	30	0	2	22	1	0	0	1	4	1	0
	1730	"	1007.6	998.3	..	30.5	19.9	12.1	14.6	34	..	0.1	..	5.1	0	0	29	0	0	5	0	0	0	1	23	2	0
	0530	49	1010.1	1004.4	..	19.5	16.0	13.1	15.4	69	..	1.5	..	6.6	0	0	23	0	0	6	3	4	9	1	0	8	0
	0830	"	1012.4	1006.8	..	23.8	18.3	14.2	16.7	57	..	1.6	..	6.6	0	1	22	1	1	6	3	2	8	2	0	8	0
Bhagalpur	0830	"	1011.7	1006.2	..	29.8	20.2	13.2	15.8	40	..	1.5	..	8.3	0	2	27	0	3	4	3	2	5	10	2	2	0
	1730	"	1008.0	1002.5	..	29.1	20.8	15.3	17.8	45	..	0.5	..	7.3	0	1	25	3	4	2	1	0	1	6	9	5	0
	2330	"	1010.5	1004.9	..	22.8	17.8	13.9	16.3	60	..	1.0	..	7.5	0	1	23	0	1	9	3	5	4	1	1	7	0
	0830	37	1012.1	1007.9	+1.1	23.4	18.9	15.7	18.2	64	+14	1.7	-0.1	5.7	0	2	24	0	4	4	1	0	10	5	2	5	0
1730	"	1007.6	1003.3	..	29.6	21.9	17.1	20.0	49	..	0.8	..	4.5	0	1	21	1	2	2	1	0	2	1	13	9	0	
Uttar Pradesh (East)																											
Gonda	0830	110	1011.9	999.1	..	22.1	16.7	12.6	15.0	55	+7	0.4	-1.0	3.3	0	0	23	0	0	10	0	0	0	2	11	8	0
	1730	"	1008.0	995.7	..	29.5	19.9	12.7	15.1	36	..	0.8	..	1.1	0	0	8	0	0	1	0	0	0	2	5	23	0
Nautanwa	0830	99	1012.1	1000.6	..	21.7	16.4	12.3	14.4	55	..	0.6	..	4.2	0	0	24	0	1	8	9	2	2	1	1	7	0
	1730	"	1007.4	996.3	..	29.3	18.4	10.6	12.7	30	..	0.2	..	4.7	0	0	20	1	1	4	5	1	2	6	0	11	0
Gorakhpur	0830	77	1012.4	1003.4	+1.2	24.1	17.4	12.0	14.3	48	-4	0.3	-0.8	1.8	0	0	28	0	0	8	0	0	0	20	0	3	0
	1730	"	1007.3	998.5	..	31.1	19.8	11.5	13.7	32	..	0.1	..	2.5	0	0	23	1	0	2	1	0	2	16	1	8	0
Gorakhpur (P.B.O.)	0230	78	1008.5	999.6	..	19.8	15.4	11.5	14.1	61	..	0.3	..	6.5	0	1	23	5	3	2	2	0	5	4	3	7	0
	0530	"	1008.8	999.7	..	17.7	14.4	11.4	13.8	68	..	0.3	..	6.1	0	0	28	6	9	2	0	0	4	3	4	3	0
	1130	"	1011.0	1002.2	..	29.6	18.9	10.5	13.3	32	..	0.3	..	9.2	0	3	28	0	1	4	7	7	6	5	1	0	0
	2330	"	1009.6	1000.6	..	21.8	16.6	12.5	14.4	57	..	0.5	..	6.0	0	1	20	2	2	4	2	1	5	3	2	10	0
Azamgarh	0830	78	1010.8	1002.0	..	22.0	17.6	14.4	16.1	62	..	0.3	..	..	0	0	30	0	0	5	0	0	0	25	0	1	0
	1730	"	1007.1	998.4	..	29.8	21.9	18.0	19.6	48	..	0.2	..	..	0	0	12	0	0	4	0	0	0	8	0	19	0
Ballia	0830	64	1012.5	1005.2	..	20.4	15.6	11.7	14.2	59	..	0	..	4.4	0	0	26	0	6	0	5	1	10	1	3	5	0
	1730	"	1009.8	1002.8	..	32.1	19.6	9.8	12.8	27	..	0	..	8.3	0	0	29	0	2	1	4	1	4	9	8	2	0
Varanasi (Banaras)	0830	76	1011.5	1003.2	+0.3	23.7	17.1	11.5	13.6	48	0	0.3	-1.1	4.6	0	0	25	0	1	2	1	4	11	5	1	6	0
	1730	"	1007.9	999.3	..	32.1	20.3	12.1	14.7	32	..	0	..	4.7	0	0	23	0	1	1	0	0	0	19	2	8	0
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1010.5	1000.5	..	16.8	13.1	9.5	12.1	63	..	0.4	..	5.3	0	1	19	0	0	3	0	3	7	6	1	11	0
	0830	"	1012.8	1003.0	..	23.3	16.2	10.1	12.5	44	..	0.3	..	10.5	0	3	27	0	2	3	0	1	15	9	0	1	0
	1130	"	1012.2	1002.6	..	30.7	18.7	9.1	11.8	27	..	0.4	..	13.2	0	6	24	0	3	2	0	1	4	13	6	1	1
	1730	"	1008.4	998.9	..	31.8	18.6	7.6	10.3	23	..	0.3	..	13.6	0	6	2	1	1	2	0	0	0	12	13	2	0
Allahabad (Bamrauli)	2330	"	1011.1	1001.2	..	21.6	15.5	10.2	12.7	49	..	0.5	..	6.1	0	1	19	1	3	3	1	1	4	3	4	11	0
	0230	98	1009.4	998.0	..	19.7	13.9	9.2	11.2	52	..	0.5	..	2.9	0	0	16	1	0	3	0	0	5	5	2	15	0
	0530	"	1009.8	998.4	..	18.0	13.4	9.2	11.7	57	..	0.4	..	3.3	0	0	18	0	1	1	1	1	3	9	2	13	0
	0830	"	1011.9	1000.6	+0.1	23.7	15.9	8.9	12.0	40	-4	0.4	-1.2	5.3	0	0	25	0	2	2	0	1	2	16	2	6	0
Sultanpur	1130	"	1011.4	1000.5	..	31.8	18.4	6.2	10.3	22	..	0.4	..	8.5	0	0	31	1	1	4	2	2	2	14	5	6	0
	1730	"	1007.7	996.7	..	32.3	18.2	5.7	9.2	20	..	0.5	..	8.2	0	0	30	4	3	1	0	0	0	7	15	1	0
	2330	"	1010.3	999.0	..	22.6	15.3	8.8	11.8	43	..	0.5	..	3.4	0	0	15	0	2	2	0	0	0	0	7	4	16
	0830	..	..	..	..	23.3	16.4	10.6	13.0	45	..	0.3	..	5.1	0	1	25	1	1	4	0	1	7	9	3	5	0
Faizabad	1730	..	..	..	..	31.3	18.7	8.7	11.3	25	..	0.9	..	5.5	0	0	2										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MARCH, 1959. (PHALGUNA 10, 1880—CHAITRA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km.p.h.)			No. of observations									
			At mean sea level or height in gpm. of nearest standard isobaric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Himachal Pradesh Bilaspur	0830	493	1013.7	956.9	..	14.6	12.4	10.7	12.5	79	..	2.7	..	0.8	0	0	7	1	2	0	1	2	1	0	0	24	0
	1730	"	1008.4	953.7	..	26.1	17.6	11.6	13.6	42	..	3.0	..	4.0	0	0	31	4	1	1	1	1	7	2	13	0	0
Mandi	0830	761	1013.7	929.2	..	13.0	10.9	8.9	11.1	74	..	5.3	..	1.1	0	0	9	2	1	0	1	0	0	2	3	22	0
	1730	"	1007.7	924.3	..	23.2	14.5	6.5	10.0	37	..	2.6	..	3.0	0	0	24	1	2	1	3	1	3	5	8	7	0
Jammu and Kashmir Srinagar	0530	1587	1518.5	843.1	..	4.9	4.2	3.4	7.7	90	..	4.0	..	2.5	0	0	19	0	1	1	10	1	1	5	1	12	0
	0830	"	1532.2	844.5	+1.6	5.6	4.6	3.5	7.7	87	+2	4.7	-0.2	2.1	0	0	16	0	0	1	10	0	0	2	3	15	0
	1130	"	1533.6	844.7	..	9.8	6.9	4.0	8.4	68	..	5.0	..	4.4	0	0	23	0	0	0	5	0	0	6	12	8	0
	1730	"	1508.5	842.2	..	11.8	7.5	3.1	7.7	59	..	4.6	..	4.4	0	0	27	0	0	0	3	1	0	14	9	4	0
	2330	"	1524.8	843.8	..	7.2	6.0	4.8	8.7	84	..	3.7	..	2.5	0	1	15	0	1	0	5	0	2	5	3	15	0
Srinagar (Aero-drome)	0530	1655	1519.0	835.4	..	3.3	2.4	1.2	6.7	86	..	4.7	..	5.1	0	0	20	0	0	1	5	5	6	1	2	11	0
	0830	"	1529.4	836.6	..	5.6	4.1	2.2	7.2	79	..	5.4	..	6.2	0	0	26	1	2	1	6	7	2	2	5	5	0
	1130	"	1530.2	836.8	..	9.5	6.8	4.1	8.0	71	..	4.7	..	8.2	0	1	30	7	6	1	1	2	0	3	11	0	0
1730	"	1509.1	834.5	..	11.2	8.1	4.8	8.7	68	..	4.7	..	9.8	0	1	28	6	0	0	3	1	1	5	13	2	0	
Gulmarg (R)	1030	2655																									
Deas (R)	0830	3066																									
Leh	0530	3514	3110.3	665.7	..	-4.7	-7.4	-13.6	1.9	48	..	3.4	..	3.6	0	0	16	4	11	0	0	0	1	0	0	14	0
	0830	"	3119.0	666.4	+1.4	-1.5	-5.5	-13.1	1.9	33	-1.6	3.3	-1.6	1.1	0	0	7	0	0	1	0	5	1	0	0	24	0
	1730	"	3074.2	663.9	..	5.1	0.2	-3.1	3.5	40	..	4.0	..	2.5	0	0	28	3	0	0	1	3	13	5	3	3	0
Skardu (R)	0830	2238																									
Gilgit (R)	0830	1491																									
Misgar (R)	0830	3106																									
Jammu (Aero-drome)	0830	"																									
Rajasthan (West) Sri Ganganagar	0530	292	1011.0	976.7	..	15.5	11.9	8.3	11.1	64	..	2.2	..	..	0	4	19	3	15	3	1	0	0	0	1	8	0
	0830	"	1011.9	978.0	..	18.5	13.7	8.5	11.6	53	..	3.4	..	..	0	2	23	4	16	3	2	0	0	0	0	6	0
	1130	"	1012.1	978.7	..	24.9	16.1	8.3	11.1	37	..	3.3	..	..	0	3	22	1	5	3	1	2	2	8	3	6	0
	1730	"	1009.4	976.3	..	25.2	16.5	9.2	11.7	30	..	3.0	..	..	0	5	22	3	2	1	1	0	4	11	5	4	0
	0530	177	1010.1	989.1	..	15.4	12.5	9.9	12.0	71	..	1.4	..	2.2	0	0	14	0	2	3	5	2	2	0	0	17	0
Churu	0830	"	1011.5	991.2	..	16.8	13.5	10.2	12.6	65	+7	1.6	-0.8	2.1	0	0	16	0	3	1	4	2	2	1	3	15	0
	1130	"	1011.9	992.0	..	27.1	17.8	10.1	13.3	36	..	1.6	..	5.13	0	0	27	7	3	0	4	3	4	3	3	4	0
	1730	"	1008.5	988.9	..	29.6	18.4	9.3	12.1	30	..	1.5	..	3.0	0	0	21	2	6	9	3	0	1	0	0	10	0
	2330	"	1011.2	990.7	..	19.5	15.1	11.4	12.5	61	..	0.9	..	2.7	0	0	21	2	6	9	3	0	1	0	0	10	0
	0830	291	1012.6	979.0	..	19.2	13.4	7.9	10.6	49	..	1.7	..	5.9	0	0	28	2	0	2	6	10	5	3	0	3	0
Bikaner	0830	224	1012.1	986.3	+0.2	19.5	12.2	4.2	8.4	37	-6	0.6	-1.2	4.7	0	0	31	0	1	4	15	1	9	1	0	0	0
	1730	"	1008.0	983.3	..	32.8	17.4	2.9	7.6	14	..	0.7	..	6.7	0	0	39	3	0	0	0	0	5	5	17	1	0
Pikaner (P.B.O.)	0530	224	1010.7	984.6	..	16.6	13.5	10.7	13.1	69	..	1.1	..	3.9	0	0	14	1	0	0	4	3	5	1	0	17	0
	1130	"	1011.6	986.8	..	30.5	22.1	16.2	20.0	48	..	1.3	..	7.6	0	0	27	2	6	1	2	3	5	4	4	4	0
	2330	"	1011.0	985.5	..	22.1	17.2	13.6	16.2	60	..	0.6	..	4.3	0	0	15	5	6	1	0	3	0	0	0	16	0
Jaisalmer	0830	242	1011.5	984.1	..	23.4	16.8	11.8	13.6	51	..	0.5	..	10.5	0	5	18	1	1	0	2	10	8	1	0	8	0
	1730	"	1007.4	981.0	..	34.1	21.3	12.0	14.6	28	..	0.9	..	16.2	0	5	26	3	1	0	0	13	13	0	1	0	0
Phalodi	0830	234	1012.9	985.6	..	21.9	13.9	5.6	9.4	39	..	0.9	..	9.9	0	5	16	1	1	0	6	3	8	1	1	10	0
	1730	"	1008.8	983.4	..	34.1	19.1	4.4	9.7	20	..	0.9	..	13.6	0	6	22	3	1	1	0	0	5	6	12	3	0
Nagaur	0830	298	1012.2	978.3	..	23.2	12.9	1.0	6.8	27	..	0.8	..	7.6	0	1	24	1	2	6	3	7	4	0	2	6	0
	1730	"	1007.6	974.9	..	33.5	16.9	-1.8	6.8	13	..	0.7	..	9.4	0	3	27	2	1	1	1	1	6	9	9	1	0
Jodhpur	0230	224	1010.5	985.0	..	23.5	13.3	1.4	6.8	25	..	0.3	..	7.6	0	0	27	6	11	0	1	1	4	3	1	4	0
	0530	"	1010.8	984.9	..	20.4	12.4	2.6	8.0	33	..	0.4	..	8.7	0	1	26	5	12	2	0	1	5	2	0	4	0
	0830	"	1012.7	987.0	+1.8	22.3	13.3	2.6	8.2	29	-7	0.9	-1.1	7.3	0	2	23	3	12	2	0	1	5	2	0	6	0
	1130	"	1012.4	987.5	..	31.1	17.0	2.8	7.9	18	..	0.6	..	8.6	0	2	26	0	3	4	4	4	6	4	3	3	0
	1730	"	1007.9	983.3	..	34.9	17.6	-0.6	5.8	11	..	1.0	..	12.2	0	4	27	1	4	0	0	2	6	13	5	0	0
Barmer	2330	"	1010.8	985.5	..	25.8	14.3	1.0	7.1	20	..	0.4	..	8.3	0	1	26	3	7	1	0	0	4	7	5	4	0
	0530	194	1009.9	987.7	..	23.4	15.2	7.2	10.3	38	..	0.2	..	9.1	0	1	28	2	1	0	0	0	4	13	9	2	0
	0830	"	1012.2	990.0	+0.5	23.3	15.4	7.6	11.4	40	-15	0.9	-0.7	7.5	0	2	27	5	2	3	3	0	3	4	9	2	0

(R) Register not received.

† Temporarily closed.

*Observations for 30 days.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	cloud amount (Okta)		Mean wind speed, Km. per hour	Wind speed (km. p. h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Ceylon (Contd.)																												
Trincomalee	0830	3	1012.8	1012.4	+1.7	27.8	24.0	22.2	26.8	72	-11	2.0	-1.0	8.5	0	1	26	2	5	1	5	7	7	0	0	0	0	0
	1730	"	1009.4	1009.1	..	29.3	24.2	21.8	26.1	64	..	2.3	..	13.1	0	3	28	5	12	9	5	0	0	0	0	0	0	
Batticaloa	0830	3	1012.9	1012.6	..	26.9	24.0	23.0	28.1	77	..	2.8	..	9.7	0	1	27	1	2	0	1	1	3	10	10	3	0	
	1730	"	1009.5	1009.2	..	29.0	25.0	22.6	27.4	71	..	2.5	..	18.7	0	17	14	0	15	10	5	1	0	0	0	0	0	
Hambantota	0830	15	1012.4	1010.7	+1.3	27.2	23.9	22.1	26.6	74	-11	3.0	0	15.5	0	12	18	7	13	9	0	0	0	0	1	1	0	
	1730	"	1009.0	1007.3	..	29.0	25.0	23.0	28.1	71	..	4.2	..	25.2	0	19	12	0	5	16	5	3	1	1	0	0	0	
Mannar	0830	4	1013.1	1012.7	..	26.5	23.8	22.6	27.4	80	..	1.6	..	8.5	0	0	30	1	9	5	15	0	0	0	0	1	0	
	1730	"	1008.7	1008.4	..	30.7	25.0	22.6	27.4	62	..	1.3	..	12.2	0	4	27	14	5	1	0	0	2	3	6	0	0	
Hydrometeorological Observatories																												
Damodar Catchment																												
Bokaro	0830	239	1012.3	984.8	..	22.8	16.0	9.9	12.9	46	..	0.7	..	2.0	0	0	18	1	0	0	3	1	1	8	4	13	0	
	1730	"	1006.9	980.3	..	31.1	18.3	6.5	10.7	25	..	0.9	..	4.2	0	0	27	4	0	1	3	0	0	3	15	4	1	
Hazaribagh	0830	615	1010.9	943.0	..	24.6	15.8	7.4	11.2	37	..	0.5	..	5.8	0	0	28	0	1	2	2	3	6	7	7	3	0	
	1730	"	1007.0	939.5	..	25.7	14.6	4.3	8.4	24	..	0.3	..	6.8	0	0	30	0	2	0	2	1	8	6	11	1	0	
Tilaiya	0830	..	..	..	..	24.3	16.7	10.0	11.9	43	..	0.6	..	6.6	0	0	22	0	1	4	1	0	6	7	1	9	2
	1730	..	..	..	..	30.2	17.5	5.8	9.8	24	..	0.6	..	11.3	0	2	28	2	1	2	0	0	0	13	12	1	0
Ramgarh	0830	..	..	..	..	24.0	19.9	16.3	19.9	64	..	0.2	..	3.0	0	0	27	0	1	0	1	1	7	13	4	4	0
	1730	..	..	..	..	29.5	22.3	17.0	20.9	53	..	0.3	..	2.4	0	0	20	0	1	1	0	0	4	8	6	11	0
Panchet Hills	0830	..	..	..	..	24.9	17.6	11.4	14.0	45	..	1.0	..	3.4	0	0	31	0	7	2	1	1	20	0	0	0	0
	1730	..	..	..	..	30.9	18.5	7.4	11.1	27	..	1.0	..	3.6	0	0	29	2	5	1	1	0	7	4	9	2	0
Durgapur	0830	..	..	..	..	27.1	20.5	15.2	18.8	50	..	0.7	..	9.2	0	3	27	4	0	6	3	4	2	2	9	1	0
	1730	..	..	..	..	32.1	20.2	11.8	14.1	31	..	0.4	..	8.5	0	1	30	2	0	1	4	1	4	1	18	0	0
Mahanadi Catchment																												
Baramul	0830	64	1011.9	1004.6	..	25.1	20.5	17.7	20.4	64	..	0.1	..	7.1	0	0	29	5	12	1	3	3	5	0	0	2	0	
	1730	"	1007.4	1000.0	..	32.2	22.5	16.8	19.3	41	..	0.5	..	2.7	0	0	12	2	0	0	0	0	2	3	5	19	0	
Hirakud	0830	159	1012.1	994.1	..	26.9	19.8	15.0	17.7	49	..	0.2	..	2.1	0	0	18	6	3	0	4	2	0	1	2	13	0	
	1730	"	1006.7	989.3	..	34.7	22.5	15.1	16.0	31	..	0	..	2.5	0	0	18	0	0	0	0	2	3	7	6	13	0	
Khijrawanj	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sonepur	0830	..	..	..	..	29.0	21.7	16.8	20.0	54	..	..	..	3.1	0	0	28	4	0	2	4	5	3	9	1	3	0
Ginabagar	0830	..	..	..	..	24.9	14.8	5.5	9.4	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhimkund	0830	..	..	..	..	23.4	18.3	14.5	17.0	58	..	1.0	..	3.0	0	0	26	4	3	0	4	1	2	1	11	5	0
	1730	..	..	..	..	33.0	18.1	2.8	8.5	20	..	1.1	..	4.8	0	0	29	3	4	3	2	2	9	0	6	2	0
Narbada Catchment																												
Funasa	0830	..	..	..	..	25.7	15.4	5.2	9.2	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	36.8	20.1	4.4	9.8	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagra Tawa	0830	..	..	..	..	25.1	14.1	2.5	8.3	23	..	0.2	..	4.6	0	0	25	0	5	2	2	6	8	2	0	6	0
	1730	..	..	..	..	34.9	18.1	1.4	7.3	14	..	0.3	..	5.8	0	0	24	2	4	0	1	0	8	6	3	7	0
Thikri	0830	..	..	..	..	25.9	14.9	14.0	16.1	50	..	0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sabarmati Catchment																												
Jhadol	0830	..	..	..	..	21.4	16.0	11.7	14.1	53	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi	0830	..	..	..	..	24.5	15.2	5.3	9.7	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	34.8	17.9	0.7	6.8	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																												
Mukhim	0830	..	..	..	..	11.8	6.5	0.1	6.4	47	..	2.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	14.9	8.5	1.8	7.0	44	..	3.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tehri	0830	..	..	..	..	13.5	11.4	9.5	11.9	78	..	2.2	..	1.3	0	0	12	2	7	1	0	1	0	0	1	19	0
	1130	..	..	..	..	21.2	13.8	7.2	10.5	42	..	2.1	..	1.8	0	0	19	3	8	1	0	2	0	5	0	12	0
	1730	..	..	..	..	26.4	15.4	5.7	9.5	29	..	2.4	..	4.8	0	0	28	4	6	5	1	7	3	1	1	3	0
Gandak Catchment																												
Gorkha	*0830	..	..	..	..	17.7	13.5	9.8	12.3	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	†1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	0830	..	..	..	..	19.2	14.7	11.4	13.5	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.6	15.8	11.6	13.7	53	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	0830	..	..	..	..	18.8	13.8	9.9	12.2	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	23.2	14.8	8.0	10.8	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Observations for 26 days.

†Data not available.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in meters	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (km. p. h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Hydrometeorological Observatories—(Contd.)																												
Gandak Catchment—(Contd.)																												
Jomosom	0830	..	..	..	..	8.5	3.7	1.7	5.3	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.4	6.1	2.8	7.6	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	10.5	6.7	2.9	7.4	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.6	10.7	5.8	9.1	49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																												
Dailekh	0830	..	..	..	..	14.6	10.9	7.4	10.5	63	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.9	12.7	6.1	9.5	43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																												
Dandeldhura	0830	..	..	..	..	13.6	8.6	3.6	8.0	51	..	1.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.6	10.4	5.9	9.3	53	..	2.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	25.8	16.5	8.6	11.8	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	29.4	18.4	9.9	12.3	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																												
Katmandu **	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																												
Chautara	0830	..	..	..	..	15.1	11.4	8.4	11.2	65	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.8	13.1	8.1	10.8	47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga	0830	..	..	..	..	14.6	10.9	8.0	10.7	66	..	4.0	..	1.1	0	0	11	0	0	0	4	5	1	0	1	20	0	0
	1130	..	..	..	..	15.7	10.9	7.0	10.0	57	..	5.0	..	2.6	0	0	25	0	0	0	0	4	7	14	0	6	0	0
	1730	..	..	..	..	14.4	10.4	6.9	9.9	62	..	5.5	..	2.8	0	0	25	0	0	0	0	0	10	13	2	6	0	0
Barakhshetra	0830	146	1013.0	996.4	..	20.8	16.2	12.5	14.7	61	..	1.9	..	5.9	0	0	26	1	2	3	2	1	8	6	3	5	0	0
	1130	"	1011.1	994.9	..	27.2	18.8	12.5	15.0	43	..	2.1	..	14.4	0	2	28	0	1	0	0	0	18	11	0	1	0	0
	1730	"	1008.2	991.7	..	26.1	18.5	12.7	15.2	45	..	2.3	..	6.3	0	1	25	0	8	12	1	0	3	1	1	5	0	0
Angbung	0830	..	..	..	..	16.7	12.9	9.8	12.1	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.3	14.1	9.0	11.5	49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	14.1	10.2	6.9	10.0	63	..	3.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	17.2	11.5	6.3	9.9	52	..	4.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.2	10.6	6.6	9.9	57	..	5.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	14.9	11.3	8.1	10.8	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	18.2	12.7	7.9	10.7	51	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	0830	..	..	..	..	5.3	2.1	-1.8	5.3	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	3.8	2.6	1.4	6.7	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur	0830	..	..	..	..	15.3	12.9	11.1	13.4	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.3	13.4	12.1	14.2	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	0830	..	..	..	..	17.5	12.8	8.6	11.3	57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	18.6	13.2	8.7	11.3	53	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																												
Gangtok	0830	1812	1511.8	820.5	..	11.6	9.1	6.9	9.9	74	..	3.5	..	2.6	0	0	14	8	1	0	0	2	2	1	0	17	0	0
	1130	"	1501.0	819.8	..	15.8	11.6	8.2	11.0	63	..	4.3	..	3.9	0	0	28	1	1	0	1	4	17	4	0	3	0	0
	1730	"	1485.3	817.9	..	12.9	10.0	7.9	10.8	76	..	6.6	..	3.8	0	0	22	1	2	1	2	11	1	1	1	9	2	0
Geyzing	0830	..	..	..	..	14.3	11.5	9.3	11.7	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.0	11.8	9.1	11.8	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Observations for 30 days.

†Observations for 27 days.

** Data included under "Hills stations".

MONTHLY MEANS OF UPPER WINDS

MARCH, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the Table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a. m. s. l. are given under Table IV and data above 9.0 km. a. m. s. l. under Table V.

In Tables IV and V :

n—represents the number of observations ;

V—represents the mean wind speed in metres per second* irrespective of direction ;

v—represents the resultant mean velocity in metres per second ;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km. a. g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a. m. s. l. Of these the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a. m. s. l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
Agartala	23°53'	91°15'	17	28th November, 1951	0530	1730	2330
Ahmedabad	23°04'	72°38'	61	19th May, 1928	0530	1730	2330
Amausi	26°45'	80°53'	132	20th November, 1950	0530	1730	2330
Ambala	30°23'	76°46'	279	1st April, 1941	0530	1730	2330
Amritsar	31°38'	74°52'	243	21st June, 1957	0530*	1730*	
Anantapur	14°41'	77°37'	364	12th February, 1946	0530	1730	2330
Asansol	23°41'	86°59'	135	29th May, 1942	0530	1730	2330
Baghdogra	26°38'	88°19'	140	7th June, 1953	0530	1730	2330
Bairagarh	23°17'	77°21'	532	26th February, 1943	0530	1730	2330
Bamrauli	25°27'	81°44'	103	28th February, 1930	0530*	1130	1730* 2330
Bangalore	12°58'	77°35'	936	19th May, 1915	0530	1730	2330
Bareilly	28°22'	79°24'	180	12th January, 1943	0530	1730	
Begumpet	17°27'	78°28'	543	1st September, 1929	0530	1730	2330
Bhagalpur	25°14'	86°57'	61	19th May, 1950	0530	1730	
Bhubaneswar	20°15'	85°50'	54	5th December, 1942	0530	1730	2330
Bhuj	23°15'	69°48'	90	14th September, 1937	0530	1730	2330
Bikaner	28°00'	73°18'	229	18th October, 1946	0530	1730	2330
Chikalhana	19°51'	75°24'	583	7th October, 1951	0530	1730	2330
Cochin†	09°56'	76°14'	3	16th March, 1942	0530	1730	2330
Darjeeling	27°03'	88°16'	2115	21st May, 1956	0530	1730	
Dehra Dun	30°19'	78°03'	692	1st October, 1958	0530	1730	
Dum Dum	22°39'	88°27'	13	14th May, 1921	0530*	1130	1730* 2330
Gadag	15°25'	75°38'	650	3rd May, 1943	0530	1730	2330
Gannavaram	16°32'	80°48'	34	8th April, 1942	0530	1730	2330
Gauhati	26°05'	91°43'	51	12th March, 1955	0530*	1130	1730* 2330
Gaya	24°45'	84°57'	119	19th March, 1937	0530	1730	2330
Gopalpur	19°16'	84°53'	24	15th February, 1946	0530	1730	2330
Gorakhpur	26°45'	83°22'	83	5th January, 1943	0530	1730	
Gwalior	26°14'	78°15'	208	7th May, 1938	0530	1730	2330
Imphal	24°51'	93°58'	805	8th March, 1952	0530	1730	2330
Jabalpur	23°10'	79°57'	402	30th July, 1928	0530	1730	2330
Jagdapur	19°05'	82°02'	562	25th March, 1948	0530	1730	2330
Jaipur	26°49'	75°48'	404	6th June, 1953	0530	1730	
Jamshedpur	22°49'	86°11'	147	23rd July, 1942	0530	1730	
Jharsuguda	21°55'	84°05'	240	1st May, 1944	0530	1730	2330
Jodhpur	26°18'	73°01'	229	15th October, 1934	0530*	1130	1730* 2330
Madras	13°00'	80°11'	29	8th April, 1926	0530*	1130	1730* 2330
Mangalore	12°52'	74°51'	40	4th June, 1928	0530	1730	2330
Minicoy	08°18'	73°00'	16	14th April, 1941	0530	1730	2330
Mohanbari	27°29'	95°01'	112	1st June, 1948	0530	1730	2330
Nagpur	21°06'	79°03'	316	23rd April, 1943	0530*	1130	1730* 2330
Nanpara	27°50'	81°30'	142	23rd April, 1957	0530	1730	
New Delhi	28°35'	77°12'	227	20th October, 1936	0530*	1130	1730* 2330
Poona	18°32'	73°51'	593	5th January, 1925	0530	1730	2330
Port Blair	11°40'	92°43'	93	29th October, 1945	0530*	1130	1730* 2330
Raipur	21°14'	81°39'	308	15th July, 1944	0530	1730	
Raxaul	26°59'	84°51'	83	28th October 1957	0530	1730	
Santa Cruz	19°07'	72°51'	27	14th May, 1933	0530*	1130	1730* 2330
Tezpur	26°37'	92°47'	79	12th August, 1932	0530	1730	2330
Tiruchirapalli	10°46'	78°43'	96	22nd June, 1936	0530	1730	2330
Trivandrum	08°29'	76°57'	73	8th December, 1928	0530*	1130	1730* 2330
Udaipur	24°35'	73°42'	587	24th June, 1947	0530	1730	2330
Vengurla	15°52'	73°38'	8	22nd November, 1941	0530	1730	2330
Veraval	20°54'	70°22'	17	13th October, 1941	0530*	1130	1730* 2330
Visakhapatnam	17°43'	83°14'	10	24th September, 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	AGARTALA																AHMEDABAD											
	0530				1130				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.5	1.0	144	31	1.2	1.2	211	31	1.7	1.3	177	31	2.7	1.6	154	31	2.7	2.1	317	31	3.1	2.0	31				
0.15 a.g. . .	29	4.9	3.3	182	30	4.0	2.5	197	30	4.9	3.8	184	31	6.1	5.1	185	31	9.3	6.7	332	31	5.5	3.8	30				
0.3 a.s.l. . .	29	5.3	3.3	214	30	3.6	2.5	198	30	5.5	4.6	189	31	6.1	4.6	184	31	9.9	7.4	335	31	5.2	3.7	29				
0.6 „ . . .	29	5.3	3.2	231	30	4.1	2.9	201	30	5.4	4.8	197	31	5.9	5.0	213	31	9.2	6.8	334	31	4.7	3.2	29				
0.9 „ . . .	28	4.5	3.1	237	30	4.1	2.9	212	30	5.1	4.4	208	29	4.5	3.2	227	31	7.2	5.1	328	31	4.5	3.1	30				
1.5 „ . . .	28	4.6	3.4	247	28	4.9	3.7	232	30	5.1	4.3	237	29	4.7	3.7	259	31	5.6	3.7	300	31	5.1	3.5	30				
2.1 „ . . .	24	4.8	4.0	272	19	6.1	4.1	244	28	6.3	5.5	258	27	5.9	5.2	269	30	6.3	4.1	281	31	6.2	4.5	30				
3.0 „ . . .	24	8.9	5.6	285	14	8.1	6.9	273	25	9.0	8.7	283	24	9.4	7.5	262	25	7.8	6.5	273	31	8.5	6.7	28				
3.6 „ . . .	22	11.3	9.6	288	3	5.7	5.5	252	19	10.7	9.0	288	11	8.3	7.2	283	11	5.8	4.4	303	31	9.0	7.2	28				
4.5 „ . . .	15	13.5	11.8	283					13	13.2	12.3	285	6	8.2	7.2	276	1	6.7	6.7	290	31	11.3	9.2	26				
5.4 „ . . .	10	13.1	10.6	279					8	15.4	13.6	287	3	8.2	7.9	253					28	13.0	11.7	28				
6.0 „ . . .	9	12.8	10.8	294					5	20.9	20.0	294	2	5.7	5.7	246					27	16.0	15.0	28				
7.2 „ . . .	4	8.1	7.3	298					1	21.1	21.1	270	1	7.7	7.7	245					19	19.7	19.3	28				
9.0 „ . . .	3	18.4	17.3	276																	1	29.8	29.8	29				

Station	AHMEDABAD								AMAUSI								AMBALA											
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.4	2.1	296	31	1.9	0.8	302	31	3.5	2.6	294	31	2.1	1.1	290	31	3.1	2.4	319	31	4.0	2.8	304				
0.15 a.g. . .	31	8.0	6.5	306	31	7.6	3.4	338	31	6.4	4.7	298	31	8.0	5.3	310	31	9.5	6.1	337	31	7.9	5.0	309				
0.3 a.s.l. . .	31	8.2	6.7	305	31	7.6	3.2	332	31	6.7	5.0	296	31	8.2	5.6	310	31	4.2	2.6	332	31	4.8	3.4	301				
0.6 „ . . .	31	6.9	5.6	308	31	7.2	4.1	323	31	7.2	5.5	292	31	8.3	6.4	307	31	9.5	6.1	333	31	8.9	5.7	312				
0.9 „ . . .	31	6.1	4.6	309	31	7.9	5.5	316	31	7.4	6.1	290	31	8.6	6.8	302	31	9.5	6.0	331	31	9.5	6.1	313				
1.5 „ . . .	31	4.9	2.8	301	28	8.9	8.0	302	30	9.0	7.9	293	25	7.4	6.9	302	31	8.5	5.6	320	31	10.3	6.6	318				
2.1 „ . . .	30	5.7	2.0	279	22	10.5	10.0	302	28	10.8	9.2	297	23	8.0	7.6	298	30	9.1	6.8	310	31	10.0	7.7	308				
3.0 „ . . .	28	7.2	4.0	275	8	9.5	8.9	292	25	11.8	10.4	295	11	8.6	7.7	297	26	9.0	7.8	295	28	10.6	8.7	302				
3.6 „ . . .	3	6.2	2.9	288	2	8.5	8.3	298	23	14.1	11.7	287	1	6.7	6.7	315	13	9.1	8.2	294	28	11.1	9.3	299				
4.5 „ . . .									16	16.6	16.4	290					2	8.2	7.3	284	26	14.1	13.2	294				
5.4 „ . . .									12	16.8	16.4	287					1	9.3	9.3	295	25	16.0	14.9	292				
6.0 „ . . .									8	14.7	13.9	287					1	12.4	12.4	310	23	18.4	17.8	291				
7.2 „ . . .									2	14.9	14.2	277									11	22.3	21.3	291				
9.0 „ . . .																					6	30.7	29.6	295				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880 —Chaitra 10, 1881 Saka)

Station	AMBALA				AMRITSAR								ANANTAPUR															
	2330				0530*				1730*				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.8	2.4	320	31	1.7	1.3	343	31	2.6	1.8	327	31	2.0	1.6	203	31	3.1	2.9	060	31	4.1	3.7	107				
0.15 a.g.	31	11.1	7.2	335	30	1.8	1.4	343	30	2.5	1.7	326	31	5.3	3.7	207	31	4.6	4.3	073	31	8.4	7.7	112				
0.3 a.s.l.	31	4.8	3.1	332	30	1.8	1.4	343	30	2.7	1.9	330																
0.6 "	31	10.9	7.2	334	30	6.6	4.5	340	30	5.9	3.9	321	31	5.3	3.5	204	31	4.7	4.4	074	31	8.9	8.3	113				
0.9 "	31	10.0	6.9	328	30	8.6	2.9	327	30	5.5	3.5	310	31	6.3	3.8	163	31	4.5	4.0	075	31	9.0	8.5	126				
1.5 "	31	8.5	6.9	316	30	6.3	4.2	318	30	6.2	3.7	302	31	7.1	4.5	118	31	4.6	4.1	080	31	5.2	4.6	099				
2.1 "	27	7.7	6.1	294	30	6.7	4.9	308	30	6.9	4.1	292	31	6.6	4.5	075	31	5.0	4.6	078	31	4.2	3.1	065				
3.0 "	24	9.7	8.6	288	30	9.3	7.9	290	30	8.1	6.7	280	31	7.2	5.9	040	31	5.5	4.6	062	31	4.9	3.4	021				
3.6 "	12	10.0	8.7	279	30	10.0	8.7	284	30	9.6	8.2	272	29	7.6	6.8	033	31	5.5	4.2	050	28	5.9	4.5	017				
4.5 "	3	11.3	10.9	260	30	11.8	10.5	277	30	12.8	11.4	274	23	6.7	5.7	030	30	6.0	4.0	036	23	6.1	4.8	020				
5.4 "	1	9.8	9.8	280	30	15.3	13.9	278	30	14.6	13.9	276	20	5.8	4.1	026	30	5.8	4.0	016	11	4.9	4.5	029				
6.0 "	1	11.3	11.3	270	29	18.9	17.5	277	29	16.7	16.2	277	18	6.3	4.6	022	26	6.3	3.6	019	7	5.7	5.4	024				
7.2 "					29	23.9	22.7	280	28	21.3	20.6	280	5	9.1	5.0	317	13	8.9	5.5	350								
9.0 "					26	34.6	32.4	277	23	33.3	30.9	278	2	10.0	9.9	333	9	10.9	6.4	349								

Station	ASANSOL												BAGHDogra											
	0530				1130				1730				2330				0530			1130				
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.2	0.3	349	31	2.0	0.9	289	31	1.5	0.7	287	31	1.5	0.3	087	31	1.8	1.3	028	31	3.8	3.8	097
0.15 a.g.	31	3.7	0.9	012	31	3.9	1.3	305	31	4.0	2.3	300	31	5.6	1.2	344	30	4.2	3.6	074	31	4.3	4.1	102
0.3 a.s.l.	31	3.7	0.8	018	31	3.8	1.2	299	31	4.0	2.3	296	31	5.8	1.5	033	30	4.2	3.9	030	31	4.5	4.1	100
0.6 "	31	4.4	1.7	347	30	3.7	1.3	291	31	4.5	2.7	284	31	6.2	1.4	347	30	4.9	4.7	092	31	3.9	3.5	095
0.9 "	28	5.0	3.7	321	30	3.9	1.7	280	31	4.9	3.2	281	31	5.7	2.3	290	30	4.2	3.2	085	30	4.2	3.7	095
1.5 "	28	8.0	6.6	303	28	4.9	3.8	289	30	5.7	5.2	281	31	6.7	5.7	273	30	3.7	0.8	052	27	3.8	1.9	108
2.1 "	22	9.2	8.0	293	23	7.4	6.4	292	30	7.4	6.7	283	31	9.2	8.6	273	27	4.5	2.0	272	21	3.5	0.5	288
3.0 "	14	12.0	10.4	293	4	8.9	8.5	303	26	11.6	11.0	295	24	12.0	11.0	286	20	7.5	5.8	279	15	5.7	3.3	285
3.6 "	6	11.3	7.9	281					21	11.5	10.8	293	12	10.4	9.6	296	15	9.3	7.9	280	1	21.1	21.1	270
4.5 "	2	16.0	14.0	310					15	10.3	9.6	290	5	11.7	10.5	276	12	14.2	13.8	284				
5.4 "									12	11.9	11.2	292	1	4.6	4.6	235	9	14.4	14.2	285				
6.0 "									8	11.0	10.5	291	1	6.7	6.7	115	5	13.4	12.3	286				
7.2 "									8	14.8	13.6	290					1	10.8	10.8	275				
9.0 "									4	22.4	19.8	274												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	BHUJ												BIKANER															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.1	1.0	269	31	3.4	2.5	294	31	2.6	2.4	265	31	1.6	0.8	174	31	1.2	0.9	286	31	1.3	0.8	032				
0.15 a.g.	31	7.1	6.2	300	31	4.6	3.4	287	31	7.2	6.4	279	31	8.0	2.5	153	31	4.3	3.3	274	31	7.7	4.6	030				
0.3 a.s.l.	31	8.1	7.3	302	31	4.7	3.4	290	31	7.6	6.9	283	31	6.2	3.4	136	31	3.6	2.6	273	31	6.6	3.8	032				
0.6 "	31	9.2	8.3	310	31	4.8	3.7	301	31	7.2	6.5	297	31	6.4	0.9	272	31	4.4	3.4	271	31	6.9	3.0	014				
0.9 "	31	7.3	5.7	306	31	4.9	3.6	297	30	6.2	5.0	306	31	5.9	3.8	280	31	4.5	3.6	271	31	5.6	2.1	318				
1.5 "	31	6.8	3.9	283	31	5.0	4.3	293	30	6.3	3.9	318	31	7.9	6.4	272	31	4.7	4.0	271	31	5.3	4.1	266				
2.1 "	30	7.2	4.5	282	31	5.9	4.8	288	30	6.7	2.6	302	30	8.9	7.4	270	31	6.2	5.4	275	30	6.2	5.8	258				
3.0 "	28	7.1	3.9	282	31	8.6	6.5	278	30	8.1	4.4	279	24	9.2	8.2	296	31	9.3	8.5	275	28	8.4	7.7	273				
3.6 "	7	5.8	2.5	384	30	9.8	7.4	276	10	9.6	8.0	278	12	9.4	8.2	283	31	5.9	10.3	273	20	9.8	8.2	284				
4.5 "	1	2.6	2.6	300	30	11.3	8.7	273	3	13.4	13.1	286	1	9.3	9.3	270	28	13.1	12.6	279	3	11.1	11.0	302				
5.4 "					30	14.3	12.1	280					1	15.4	15.4	270	22	14.9	13.7	283								
6.0 "					30	15.9	14.2	279									18	18.0	16.8	279								
7.2 "					13	21.3	20.2	271									10	18.3	17.4	286								
9.0 "					3	29.3	29.0	259									5	22.4	21.7	279								

Station	CHIKALTHANA												COCHIN															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.2	0.9	314	31	2.1	1.3	316	31	1.6	1.4	318	31	1.1	0.8	071	31	4.3	4.1	274	31	1.2	0.5	324				
0.15 a.g.	31	6.1	4.5	344	31	4.0	2.5	317	31	6.4	2.6	344	31	3.5	2.5	053	31	5.7	5.5	273	27	2.6	1.0	308				
0.3 a.s.l.													31	3.2	2.2	019	31	6.2	6.0	273	27	2.7	1.3	301				
0.6 "													31	3.5	2.5	345	31	5.1	4.4	274	27	2.8	1.9	294				
0.9 "	31	6.8	4.8	353	31	3.9	2.5	311	31	7.5	5.9	353	31	2.7	1.6	354	30	3.3	1.5	309	27	2.7	1.3	308				
1.5 "	31	6.0	3.0	344	31	3.5	2.4	311	31	6.7	4.7	348	31	2.8	2.0	060	29	5.4	4.5	063	24	3.6	2.3	100				
2.1 "	31	5.0	1.0	308	31	4.4	2.8	304	31	4.7	1.9	345	30	6.9	6.6	062	28	8.9	8.5	064	20	7.2	6.6	081				
3.0 "	31	5.2	1.7	304	30	4.8	3.1	303	31	5.0	1.0	243	27	11.2	10.8	060	20	9.5	9.4	072	11	12.1	12.0	056				
3.6 "	23	5.5	3.0	303	29	6.0	4.1	311	18	5.9	1.5	253	20	9.6	8.5	067	12	7.4	7.0	068	4	9.7	9.6	051				
4.5 "	8	6.0	3.9	324	27	7.9	6.1	314	3	4.5	3.0	223	10	6.9	6.1	071	6	4.6	3.7	067								
5.4 "	2	9.0	9.0	265	26	9.3	7.8	302					2	11.6	11.4	077	1	3.1	3.1	225								
6.0 "					26	10.5	9.1	304					2	13.6	13.6	084												
7.2 "					10	13.0	11.7	297					2	11.8	11.7	103												
9.0 "					2	17.5	17.1	277					2	6.7	6.6	050												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

March, 1959 (Phalgunā 10, 1880—Chaitra 10, 1881 Saka)

Station	DARJEELING								DEHRADUN								DUM DUM							
	0530				1730				0530*				1730				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.7	0.3	200	31	2.5	2.2	251	31	1.4	1.1	003	31	2.2	0.6	258	31	1.2	0.7	190	31	2.1	1.2	223
0.15 a.g.	17	1.7	0.4	071	4	2.7	2.5	228	31	1.7	1.2	089	30	3.1	1.2	249	31	5.1	2.9	226	31	4.2	2.4	220
0.3 a.s.l.																	31	5.3	3.2	224	31	4.0	2.5	224
0.6 "																	31	5.5	3.4	234	31	4.3	2.9	226
0.9 "									31	1.5	1.0	104	30	3.4	1.4	255	31	5.5	3.7	249	30	4.1	2.8	237
1.5 "									31	2.7	0.6	262	30	3.7	2.2	270	31	5.5	4.1	278	28	5.1	3.9	276
2.1 "									30	3.9	2.9	300	30	4.9	3.5	284	31	7.3	6.4	291	28	7.5	6.5	290
3.0 "	17	3.8	1.9	283	4	2.5	0.6	015	29	7.1	6.1	296	30	7.5	5.6	298	31	10.8	10.0	298	27	11.2	9.9	293
3.6 "	16	5.9	4.4	277	4	4.4	2.7	228	28	9.6	8.7	296	27	7.2	6.0	311	31	12.6	11.7	295	24	12.9	12.1	298
4.5 "	11	13.4	12.7	274	3	12.5	12.2	282	14	12.0	11.0	297	25	11.0	9.7	305	31	13.0	12.1	288	22	14.5	13.8	294
5.4 "	7	17.5	14.0	284	2	11.1	11.1	265	1	13.9	13.9	310	21	14.5	13.8	293	31	15.3	14.2	283	20	15.5	13.8	294
6.0 "	4	18.0	13.9	298	2	14.4	14.4	280					21	16.4	15.9	292	31	17.3	16.6	290				
7.2 "	1	22.1	22.1	025	1	16.5	16.5	310					19	20.4	19.7	289	31	23.3	22.4	285	14	14.1	13.3	291
9.0 "	1	11.8	11.8	315	1	40.6	40.6	305					9	28.4	26.8	287	27	24.2	21.6	266	5	24.4	23.1	275

Station	DUM DUM								GADAG								GANNAVARAM							
	1730*				2330				0530				1730				2330				0530			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.2	0.1	163	31	2.2	1.8	203	31	3.4	2.0	179	31	2.5	1.3	087	31	4.3	1.2	253	31	0.9	0.8	110
0.15 a.g.	31	4.6	2.8	195	31	6.6	5.3	207	31	6.2	2.3	162	31	4.3	1.9	077	31	9.1	1.1	241	31	3.8	3.0	159
0.3 a.s.l.	31	4.4	2.7	197	31	7.2	6.3	208													31	4.8	4.2	181
0.6 "	31	4.4	2.7	207	31	6.8	5.4	214													29	6.5	6.1	183
0.9 "	31	4.1	2.7	227	28	4.7	2.7	242	31	6.6	2.3	108	31	4.5	2.1	067	31	8.9	0.7	285	25	6.4	5.2	169
1.5 "	31	4.3	3.1	263	28	5.5	4.0	292	31	7.3	3.5	094	31	5.1	3.3	072	31	6.2	3.9	082	21	5.0	3.6	050
2.1 "	31	6.2	5.5	285	28	8.4	7.8	295	31	5.4	3.4	075	31	5.8	4.4	071	31	6.0	5.1	084	18	7.2	6.2	029
3.0 "	31	10.2	9.3	298	20	18.5	9.5	307	31	6.3	5.4	042	31	5.6	4.6	116	31	5.7	4.5	062	16	7.7	6.1	014
3.6 "	31	12.4	11.4	296	5	8.5	7.9	311	29	6.7	5.8	036	29	5.6	4.6	054	29	5.9	5.3	052	16	6.1	4.6	004
4.5 "	31	13.7	13.3	293					24	6.3	4.8	017	27	6.6	5.4	044	26	6.3	4.1	048	15	5.3	3.9	319
5.4 "	31	14.7	14.1	291					10	6.0	4.1	327	23	7.0	5.3	018	10	5.8	5.9	327	14	5.2	3.8	311
6.0 "	31	17.5	16.6	290					6	6.9	5.9	325	22	5.7	3.2	011	5	4.5	2.9	297	13	5.5	4.0	291
7.2 "	31	23.5	21.9	288									21	7.5	4.0	343	1	6.2	6.2	165	8	8.1	6.7	284
9.0 "	28	23.2	19.6	286									19	8.1	6.0	307					4	11.5	11.3	263

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

MARCH, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	GANNAVARAM								MADADI															
	1730				2330				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.7	3.3	171	31	1.8	1.6	168	31	1.2	0.9	302	31	2.2	1.7	043	31	0.6	0.4	040	31	2.3	0.8	065
0.15 a.g.	31	4.0	3.6	167	31	6.3	6.0	174	31	4.1	3.3	079	31	3.2	2.7	096	31	3.5	2.1	022	29	3.5	2.1	089
0.3 a.s.l.	31	3.9	3.5	169	31	7.0	6.6	173	31	3.6	2.4	077	31	3.1	2.0	050	31	3.4	1.6	014	29	3.4	1.6	094
0.6 "	31	4.0	3.4	162	31	5.7	5.0	168	31	3.9	0.7	094	31	3.1	0.6	049	31	3.3	1.4	347	28	2.9	0.7	125
0.9 "	31	3.4	2.1	156	31	4.0	2.5	168	31	4.2	0.3	243	31	4.3	2.1	247	31	3.5	2.1	294	28	3.1	1.6	261
1.5 "	31	4.0	1.8	039	31	4.7	2.2	037	31	5.1	0.3	262	30	6.3	4.8	244	31	5.4	4.9	258	28	7.4	4.8	257
2.1 "	31	6.8	5.3	023	29	6.3	4.9	004	31	6.7	5.2	264	27	7.7	6.3	239	31	8.3	8.2	248	25	6.5	5.8	254
3.0 "	31	8.2	7.4	011	27	8.2	6.9	009	31	10.5	8.7	269	21	8.4	7.0	252	31	10.3	9.3	243	17	6.3	5.5	255
3.6 "	31	6.8	5.7	005	19	6.8	5.9	003	31	11.9	9.5	269	19	7.8	6.4	261	31	11.4	10.2	258	7	8.4	4.7	259
4.5 "	30	6.2	4.5	337	8	8.2	7.2	351	31	14.2	11.9	275	16	10.8	9.1	273	31	14.5	13.9	276	3	10.5	9.4	265
5.4 "	29	6.6	5.1	324	1	5.1	5.1	275	31	18.0	16.2	277	12	14.6	13.5	283	31	19.0	18.6	279	2	13.6	13.3	290
6.0 "	28	7.3	5.8	313					31	19.8	18.5	280	8	18.5	17.5	283	31	19.5	14.5	284				
7.2 "	25	10.8	8.7	302					31	23.7	22.2	286	2	20.3	20.2	293	31	22.5	21.6	286				
9.0 "	18	14.9	13.1	297					19	27.3	25.2	286	1	12.9	12.9	295	22	26.9	22.9	285				

Station	GAYA								GOPALPUR															
	0530				1130				1730				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.8	1.0	180	31	2.7	1.7	265	31	2.6	1.9	324	31	1.3	0.2	181	31	3.3	2.7	217	31	7.9	7.7	202
0.15 a.g.	31	4.7	1.9	232	31	3.8	2.2	252	31	5.1	3.8	310	31	5.9	2.0	350	31	7.3	6.6	218	31	11.0	10.7	200
0.3 a.s.l.	31	4.8	1.1	240	31	4.1	2.2	255	31	5.4	4.0	305	31	6.2	2.5	348	31	6.8	6.3	221	31	10.6	9.3	200
0.6 "	31	5.1	2.1	302	31	4.3	2.9	264	31	6.3	4.9	301	31	6.7	3.9	319	31	5.3	4.3	233	31	6.8	5.9	191
0.9 "	31	5.7	4.3	300	31	4.1	2.7	270	31	6.3	5.0	297	31	6.6	5.3	301	31	4.9	3.2	254	31	4.1	2.5	195
1.5 "	31	8.3	7.7	300	30	5.7	6.9	290	31	6.4	5.6	282	31	8.6	7.8	281	31	5.1	3.8	321	31	4.4	2.8	318
2.1 "	29	9.9	9.1	295	30	9.7	9.2	298	31	8.9	8.0	279	27	9.5	8.2	281	30	7.0	6.1	337	31	7.3	6.5	325
3.0 "	22	12.8	9.8	294	17	10.9	10.0	297	30	12.9	11.9	283	16	11.6	10.9	286	20	9.2	8.3	336	30	10.6	10.0	322
3.6 "	16	13.2	11.7	298	2	14.2	14.1	302	29	14.1	13.3	291	4	9.1	8.9	283	10	6.4	5.3	344	30	10.8	10.1	323
4.5 "	9	11.7	10.2	289					25	15.5	14.1	296					3	3.8	2.1	251	28	8.8	5.1	310
5.4 "	7	10.8	9.3	300					19	17.2	14.8	302					2	5.7	3.7	258	27	11.2	10.6	307
6.0 "	4	10.2	6.6	309					15	16.7	14.4	296					2	9.8	9.7	261	25	12.3	11.2	301
7.2 "	1	9.3	9.3	285					5	20.1	11.7	268					1	3.6	3.6	290	25	13.1	12.0	287
8.0 "									2	16.0	11.3	299					1	7.7	7.7	245	21	19.8	16.7	296

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

March, 1959. (Phalguna, 1880—Chaitra, 1881 Saka)

Station	GOPALPUR				GORAKHPUR				GWALIOR				JABALPUR											
	2330				0530				1730				2330											
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface . . .	31	7.6	7.3	212	31	2.2	0.7	345	31	2.3	1.5	269	31	1.1	0.6	281	31	2.5	2.0	325	31	0.7	0.3	242
0.15 a. g.	31	10.0	9.9	212	31	6.5	1.0	320	31	4.5	2.7	276	31	5.9	3.2	341	31	12.7	3.9	327	31	4.9	2.2	339
0.3 a.s.l.	31	9.6	9.3	215	31	7.3	1.0	313	31	5.3	3.3	275	31	4.3	2.0	334	31	4.2	3.5	331	31	4.1	1.5	313
0.6 „ . . .	31	6.4	5.8	213	31	7.3	2.4	290	31	6.1	4.2	275	31	7.0	4.6	338	31	5.9	5.0	322	31	5.8	3.5	330
0.9 „ . . .	31	4.4	2.9	221	31	6.9	3.8	297	31	6.0	4.4	274	31	7.1	5.2	325	31	6.3	5.3	311	31	6.6	5.0	310
1.5 „ . . .	31	4.2	2.8	322	30	7.8	5.8	303	31	6.6	5.9	277	31	8.4	7.5	303	31	6.8	6.0	297	31	7.9	7.1	293
2.1 „ . . .	31	6.5	5.7	326	26	8.7	7.4	300	31	9.2	8.3	287	31	10.6	9.9	297	30	8.3	7.5	294	30	9.2	8.4	286
3.0 „ . . .	27	8.3	7.3	330	13	9.5	8.6	305	31	13.1	12.6	293	22	12.0	11.1	290	30	11.3	10.1	293	25	11.1	9.5	281
3.6 „ . . .	21	7.8	6.8	322	8	10.6	10.3	308	30	14.1	13.7	295	13	13.2	11.9	280	29	13.0	12.0	292	13	10.2	9.2	285
4.5 „ . . .	9	5.3	3.9	302	3	10.1	9.6	302	26	15.6	15.1	292	3	16.3	15.4	292	28	16.6	15.9	291	3	10.7	10.2	291
5.4 „ . . .	4	9.8	9.3	269	3	9.9	9.4	302	20	16.2	15.5	288	2	10.8	10.8	296	24	17.3	16.5	289				
6.0 „ . . .	2	9.0	8.9	254	2	11.8	11.1	290	18	15.7	15.0	287	2	10.3	10.2	285	21	19.0	18.2	290				
7.2 „ . . .					2	9.3	9.1	296	11	18.1	17.3	284	1	2.1	2.1	305	16	20.1	19.6	287				
9.0 „ . . .									6	21.3	19.3	273	1	9.8	9.8	295	3	34.6	34.4	297				

Station	IMPHAL				MUMBAI				JABALPUR															
	0530				1130				1730				2330											
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface . . .	31	0.4	0.3	171	31	1.5	1.1	193	31	2.6	1.9	249	31	0.6	0.3	187	31	0.7	0.4	164	31	2.1	1.3	319
0.15 a. g.	29	1.0	0.5	151	29	2.2	1.4	193	30	4.5	3.5	254	30	1.8	0.8	151	31	4.4	0.7	073	31	4.2	3.1	307
0.3 a.s.l.																								
0.6 „ . . .																	31	4.7	1.3	042	31	4.4	3.3	308
0.9 „ . . .	29	1.0	0.5	156	29	2.1	1.2	186	30	4.1	3.1	253	30	1.7	0.5	135	31	5.7	3.0	010	31	5.5	4.5	308
1.5 „ . . .	29	2.9	1.6	264	28	3.7	2.7	244	30	5.9	5.1	262	30	4.1	3.7	258	31	7.2	5.9	325	31	5.8	4.9	307
2.1 „ . . .	26	6.0	5.0	270	28	5.9	4.9	260	29	7.4	6.9	253	27	7.3	6.5	256	31	8.9	7.9	302	31	6.3	5.6	299
3.0 „ . . .													18	7.3	5.9	261	31	12.4	10.8	287	31	9.6	8.7	293
3.6 „ . . .	22	6.7	5.5	263	21	7.1	6.3	261	25	8.4	7.0	262	11	8.6	6.5	260	26	12.4	10.7	286	31	11.9	10.5	289
4.5 „ . . .	21	8.4	6.4	266	14	9.3	6.2	265	17	10.0	7.9	271	7	7.3	5.9	267	9	9.9	9.0	282	31	13.3	12.4	292
5.4 „ . . .	14	10.6	9.7	283	2	12.1	11.8	270	8	14.2	12.9	278	6	11.9	11.5	279	4	9.4	6.2	276	28	14.9	13.9	293
6.0 „ . . .	9	14.1	13.0	282					3	14.1	11.2	301	6	12.3	11.1	291	3	11.7	7.8	266	25	16.7	15.9	295
7.2 „ . . .													1	19.6	19.6	330	1	12.4	12.4	270	20	21.0	20.1	289
9.0 „ . . .									2	11.3	11.3	339									9	22.3	21.4	282

TABLE IV.—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level.

March, 1939. (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	JABALPUR				JAGDALPUR												JAIPUR											
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.4	0.1	340	31	0.5	0.4	151	31	1.5	0.9	317	31	1.1	0.6	220	31	1.6	0.9	040	31	3.3	2.8	297				
0.15 a.g.	31	6.0	4.0	016	31	5.3	4.1	205	31	4.6	2.5	319	31	5.8	2.0	246	30	5.2	1.5	019	31	5.2	4.4	293				
0.3 a.s.l.																												
0.6 "	31	6.4	4.3	011	31	3.0	2.3	195	31	3.3	1.9	321	31	3.9	1.7	243	30	5.8	1.4	050	31	5.4	4.6	291				
0.9 "	31	6.4	4.6	001	31	5.4	3.0	221	31	4.3	2.6	314	31	6.0	1.4	271	31	6.2	3.4	296	31	5.9	4.9	290				
1.5 "	31	6.1	4.4	316	31	4.7	2.1	339	31	4.4	2.4	323	31	5.1	2.5	321	31	7.7	6.9	293	31	6.6	5.7	291				
2.1 "	31	7.1	1.0	288	30	6.5	5.2	342	31	3.8	2.2	322	31	5.2	3.3	329	31	10.5	9.1	289	31	6.4	5.6	292				
3.0 "	31	10.1	8.6	283	28	8.9	8.0	345	30	4.8	3.8	333	30	6.4	5.6	334	24	11.0	9.4	282	28	10.1	8.6	278				
3.6 "	26	10.9	9.1	286	15	7.9	7.5	345	29	6.6	5.5	331	19	8.3	7.2	338	13	11.4	6.4	318	27	12.8	11.6	290				
4.5 "	7	10.1	9.7	285	4	5.3	4.0	337	26	9.4	8.4	322	5	6.5	5.9	311	1	5.1	5.1	305	23	15.2	14.1	288				
5.4 "					1	5.1	5.1	265	20	11.6	1.1	315	2	8.7	7.9	273	1	12.9	12.9	280	14	17.0	15.9	232				
6.0 "					1	7.2	7.2	315	16	12.2	11.3	305									9	16.6	16.0	280				
7.2 "					1	9.8	9.8	285	13	15.4	14.2	302									4	21.8	20.4	283				
9.0 "									5	23.6	22.2	299									1	33.4	33.4	278				

Station	JAMSHEDPUR												JHARSUGUDA															
	0530				1130				1730				0530				1730				2330							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.3	0.8	289	31	1.4	0.5	290	31	1.8	0.9	340	31	1.5	1.2	019	31	2.9	1.9	252	31	1.5	0.5	310				
0.15 a.g.	31	2.5	1.1	290	31	2.3	1.5	290	30	3.8	1.8	337	30	4.5	3.2	034	31	4.6	3.1	247	30	4.9	2.7	304				
0.3 a.s.l.	31	2.5	0.9	284	31	2.3	0.8	286	30	3.8	1.9	336	30	4.2	3.2	030	31	4.8	3.2	246	30	4.2	2.2	301				
0.6 "	31	3.5	1.0	307	31	2.4	1.1	295	31	4.2	2.2	324	30	5.1	3.8	026	31	5.1	3.8	266	30	5.4	3.5	315				
0.9 "	31	4.5	1.7	315	31	3.1	1.9	298	31	4.4	2.3	307	30	6.1	4.1	350	31	5.0	4.1	283	30	5.5	3.9	312				
1.5 "	31	5.7	4.3	306	31	4.9	3.5	290	31	4.9	3.4	283	30	7.6	6.2	309	31	5.5	4.7	299	30	5.8	4.7	301				
2.1 "	31	8.7	7.6	294	28	7.7	6.4	301	30	6.1	5.1	279	30	9.1	7.9	308	31	7.1	6.2	300	29	6.8	5.6	304				
3.0 "	13	11.2	10.7	302	12	11.6	10.7	301	28	9.4	8.7	289	21	10.6	9.7	309	31	10.1	8.9	313	26	9.3	8.0	307				
3.6 "	3	12.2	12.1	294					23	11.1	9.4	292	7	7.4	6.7	325	31	12.1	11.0	312	13	9.4	7.9	312				
4.5 "	1	9.3	9.3	295					17	9.9	8.7	299					24	11.8	10.9	303								
5.4 "	1	9.8	9.8	295					13	11.2	10.7	289					7	16.4	15.8	295								
6.0 "	1	9.3	9.3	285					10	12.8	12.2	296					5	13.8	13.6	282								
7.2 "									6	16.7	16.0	283																
9.0 "									2	21.9	20.5	280																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	JODHPUR												MADRAS															
	0530*				1130				1730*				2330				0530*				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.5	1.2	020	31	2.1	0.7	243	31	3.8	3.0	270	31	2.5	1.2	288	31	2.2	1.4	179	31	2.8	2.3	167				
0.15 a. g. . .	31	3.4	1.2	358	31	3.1	1.5	261	30	4.2	3.5	270	30	7.3	2.9	281	31	4.8	4.2	158	31	4.4	3.8	162				
0.3 a.s.l. . .	31	3.0	0.9	360	31	2.9	1.3	270	30	4.1	3.3	269	30	6.0	2.3	229	31	4.8	4.2	155	31	4.3	3.5	164				
0.6 " . . .	31	5.0	1.9	314	31	3.7	1.6	263	30	4.7	4.2	243	30	7.2	3.7	288	30	4.7	3.9	150	31	4.0	3.2	155				
0.9 " . . .	31	6.4	3.6	283	31	4.8	2.6	280	31	5.0	3.9	269	29	6.5	3.9	286	31	4.8	3.3	128	31	4.3	3.4	132				
1.5 " . . .	31	7.6	5.9	270	31	6.4	4.4	278	31	5.3	4.1	266	27	5.3	3.8	266	31	5.6	4.4	074	29	6.7	6.1	075				
2.1 " . . .	31	8.2	7.0	273	31	7.7	5.6	277	30	5.7	4.4	273	24	5.9	4.8	266	31	6.9	6.3	037	29	9.2	8.3	059				
3.0 " . . .	31	9.6	8.2	277	29	9.1	3.8	279	30	8.0	6.8	276	18	5.9	3.8	288	31	7.8	6.9	048	28	8.3	7.7	050				
3.6 " . . .	31	11.2	10.0	275	28	10.9	8.4	276	29	11.2	10.1	275	3	12.4	11.8	289	31	7.1	6.2	045	28	7.6	6.9	047				
4.5 " . . .	30	13.5	12.2	275	25	12.0	10.8	279	30	18.8	12.1	272					30	6.4	5.5	047	28	7.0	5.9	052				
5.4 " . . .	30	17.1	16.0	277	21	13.6	12.9	279	29	17.3	16.2	277					30	7.3	5.4	048	28	7.5	5.2	067				
6.0 " . . .	30	19.8	18.6	275	17	13.6	12.9	286	28	19.6	18.4	276					30	7.6	5.0	040	28	7.7	4.8	054				
7.2 " . . .	30	26.7	25.9	273	9	17.3	15.9	288	26	24.3	22.3	277					30	8.8	4.1	014	28	8.2	3.4	015				
9.0 " . . .	23	30.6	28.6	273	3	28.8	28.1	275	22	32.1	30.5	274					30	9.9	4.4	315	21	9.5	4.5	312				

Station	MADRAS				MANGALORE								MINICOY															
	1730*				2330				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	4.3	3.9	129	31	2.3	2.1	145	31	2.3	2.2	085	31	5.0	4.5	297	31	2.4	2.2	355	31	1.6	1.2	329				
0.15 a. g. . .	31	6.4	5.9	127	31	5.6	5.1	141	31	2.9	2.0	040	31	6.0	5.8	289	31	4.0	3.9	330	31	3.1	2.1	343				
0.3 a.s.l. . .	31	6.2	5.7	126	31	5.6	5.0	140	31	2.4	1.3	022	31	6.3	6.1	290	31	4.2	4.0	328	31	3.0	2.1	348				
0.6 " . . .	31	5.5	4.6	126	31	4.6	3.7	128	31	2.2	0.6	046	31	4.9	4.6	286	31	3.9	3.7	332	31	2.9	1.6	014				
0.9 " . . .	31	4.9	3.6	110	31	5.2	3.9	105	31	3.0	1.1	076	31	3.4	2.4	299	31	2.9	2.1	338	31	3.5	2.2	068				
1.5 " . . .	31	5.7	5.0	066	31	6.1	5.1	066	30	5.1	2.3	085	29	4.0	3.0	047	30	3.8	2.0	017	31	6.8	6.2	082				
2.1 " . . .	31	8.1	7.7	053	31	7.7	6.8	049	26	6.2	5.1	081	28	7.4	7.4	071	28	6.7	5.7	064	31	9.3	8.7	079				
3.0 " . . .	31	8.2	2.5	043	30	8.6	7.7	038	21	7.1	6.5	069	21	10.9	10.6	070	26	11.2	11.0	078	26	8.2	7.1	081				
3.6 " . . .	31	7.2	6.1	041	12	6.1	5.0	038	13	7.7	7.1	053	18	9.6	9.3	060	15	10.7	10.5	077	15	8.2	6.7	082				
4.5 " . . .	31	5.5	4.1	041									17	5.9	4.7	069	4	8.4	7.3	055	9	9.3	6.6	081				
5.4 " . . .	31	6.3	4.4	035									17	7.2	5.9	059												
6.0 " . . .	31	6.8	4.1	030									15	7.6	6.7	059												
7.2 " . . .	31	8.5	3.8	016									6	8.6	5.8	012												
9.0 " . . .	30	8.6	3.7	253									2	9.3	8.7	326												

TABLE IV.—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1933 (Phalguna 10, 1933—Chaitra, 1933 Saka)

Station	MINICOY								MOHANBARI															
	1730				2330				0530				1130				1730				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.4	1.9	330	31	2.2	1.7	327	31	0.9	0.9	051	31	1.9	1.5	052	31	1.0	0.7	045	31	1.0	0.9	048
0.15 a.g.	31	4.6	3.7	335	31	3.3	2.5	319	29	5.5	5.0	055	29	3.6	3.0	062	29	4.7	3.5	055	30	5.5	4.9	046
0.3 a.s.l.	31	4.3	3.4	338	31	3.1	2.4	318	29	5.6	5.3	051	29	3.5	2.9	061	29	4.8	3.7	061	30	5.5	5.0	053
0.6 "	31	3.4	2.6	355	31	2.9	1.7	330	29	4.7	4.1	055	29	3.7	3.2	057	29	4.4	3.5	076	29	4.4	3.9	063
0.9 "	31	3.4	2.3	043	31	2.8	1.3	046	29	3.3	2.4	064	27	2.6	2.1	061	28	3.4	2.3	088	29	3.5	2.6	082
1.5 "	31	6.3	5.6	065	31	7.2	6.8	070	28	3.2	1.3	174	23	3.0	1.6	211	27	2.7	1.4	155	27	2.6	0.9	131
2.4 "	26	9.4	9.0	065	30	10.7	10.3	072	25	3.9	2.8	232	21	5.3	4.8	223	24	4.3	3.3	226	21	3.7	2.3	227
3.0 "	21	8.3	7.8	071	25	9.4	9.1	073	20	4.5	3.5	247	12	6.3	5.0	227	22	5.8	4.5	139	19	5.3	4.5	243
3.6 "	19	6.7	5.7	075	18	7.5	7.1	078	14	5.5	4.9	253	2	5.7	4.4	217	10	4.8	3.8	146	9	6.2	5.5	242
4.5 "	17	7.9	7.1	076	11	7.2	6.2	077	11	7.1	6.6	268					6	5.1	3.7	249	5	8.4	8.0	249
5.4 "	12	7.6	5.2	071	2	5.9	5.8	123	4	10.8	8.6	303					2	7.7	6.4	239	4	11.9	10.2	242
6.0 "	11	7.9	6.3	083					4	13.1	11.6	310					1	17.0	17.0	235	2	8.2	7.5	310
7.2 "	8	7.7	6.7	058																	1	8.2	8.2	270
9.0 "	7	8.9	5.8	050																				

Station	NAGPUR								NANPARA															
	0530*				1130				1730*				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.9	329	31	1.6	0.5	002	31	2.0	1.3	300	31	1.9	0.7	040	31	2.1	0.6	278	31	1.7	1.0	281
0.15 a.g.	31	6.4	3.3	022	31	2.3	0.6	003	31	5.2	2.9	304	31	6.5	1.7	080	30	6.2	1.3	322	31	4.9	3.1	286
0.3 a.s.l.	31	5.5	3.7	011	31	4.0	1.9	001	31	4.5	2.9	300	31	5.5	1.9	080	30	6.3	1.3	319	31	5.0	3.4	285
0.6 "	31	5.8	2.7	017	31	2.8	0.7	031	31	4.0	2.4	303	31	6.6	1.0	106	30	6.8	2.1	304	31	5.9	4.0	281
0.9 "	31	5.5	1.8	353	31	3.0	0.5	348	31	2.9	1.7	275	31	5.7	0.5	275	30	6.9	3.3	303	31	6.3	4.8	283
1.5 "	31	5.0	2.3	295	31	4.5	2.1	302	31	3.4	2.5	282	31	4.4	2.2	285	29	8.1	6.9	308	31	6.7	6.0	282
2.4 "	31	5.7	4.4	279	31	6.4	4.3	290	31	4.0	3.0	289	31	5.2	3.8	289	22	10.9	10.2	307	31	8.9	7.1	295
3.0 "	31	8.2	6.8	290	30	8.6	6.9	295	31	6.5	5.5	291	30	7.4	5.7	295	12	13.8	13.5	307	29	10.9	10.5	304
3.6 "	31	9.4	8.0	299	30	9.6	7.6	304	31	8.4	7.1	299	22	8.4	7.5	300	10	12.6	12.0	305	27	12.6	12.0	300
4.5 "	31	10.6	9.2	297	30	11.0	9.1	306	31	9.7	8.6	300	9	9.4	8.9	304	3	14.4	14.2	283	16	13.9	13.2	297
5.4 "	31	12.5	10.9	299	29	12.5	11.2	300	31	11.8	10.9	295	4	9.5	9.3	306	1	21.1	21.1	280	11	17.0	16.0	290
6.0 "	31	13.4	12.7	290	28	14.2	13.4	295	31	14.4	13.3	295	1	3.1	3.1	320					9	16.1	15.2	287
7.2 "	31	16.3	15.4	284	24	16.2	15.4	290	31	15.9	14.7	285									1	10.8	10.8	335
9.0 "	27	20.1	18.5	281	11	20.2	17.7	280	28	22.2	21.1	279												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	NEW DELHI																POONA							
	0530*				1130				1730*				2330				0530				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.8	0.6	288	31	5.1	3.7	302	31	3.9	2.7	317	31	2.7	1.8	328	31	0.6	0.5	225	31	2.1	1.0	320
0.15 a. g. . .	31	7.8	5.1	320	31	5.9	3.2	305	31	7.3	4.7	320	31	8.3	5.3	341	31	2.7	1.9	305	31	4.3	2.2	324
0.3 a. s. l. . .	31	6.3	4.3	323	31	5.7	3.6	306	31	5.7	4.2	315	31	6.7	4.4	337								
0.6 „ . . .	31	7.9	6.0	320	31	6.5	4.5	298	31	7.5	5.0	320	31	8.4	5.3	335	31	1.6	1.4	240	31	3.0	1.6	327
0.9 „ . . .	31	9.0	6.8	315	31	8.1	6.1	302	31	7.7	5.8	317	31	7.9	5.6	320	31	4.5	3.1	337	31	4.9	2.6	320
1.5 „ . . .	30	10.9	9.7	299	30	10.9	8.2	309	31	9.5	7.9	315	31	8.4	7.9	297	31	6.0	2.9	353	31	4.2	2.4	319
2.1 „ . . .	30	12.0	11.5	298	30	11.6	9.3	304	31	10.9	8.5	300	31	9.4	8.7	287	31	4.7	1.5	077	31	3.8	1.0	335
3.0 „ . . .	31	12.5	11.1	300	28	12.2	10.1	298	31	12.3	10.5	290	26	10.5	9.7	283	21	4.9	0.6	093	31	4.3	1.4	051
3.6 „ . . .	31	12.7	11.5	298	28	13.0	11.1	290	31	13.7	11.3	286	9	13.2	12.9	276	31	5.8	1.5	340	31	5.1	2.4	013
4.5 „ . . .	31	15.1	12.1	289	28	15.2	14.2	289	31	17.0	15.1	288					12	7.2	4.7	313	31	6.6	2.9	339
5.4 „ . . .	31	17.3	16.0	285	26	18.2	17.2	288	31	20.6	19.5	290									30	7.9	5.9	314
6.0 „ . . .	31	19.3	18.1	285	25	19.4	18.4	287	31	22.0	20.7	286									30	8.8	6.7	303
7.2 „ . . .	30	25.9	24.9	284	15	22.5	21.9	281	31	25.4	24.0	285									21	11.3	10.3	285
9.0 „ . . .	24	29.9	28.9	283	6	24.8	24.3	281	22	28.3	27.4	285									10	17.8	16.2	296

Station	POONA				PORT BLAIR																RAIPUR			
	2330				0530*				1130				1730*				2330				0530			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.0	0.9	248	31	0.5	0.4	070	31	3.0	2.7	067	31	2.4	2.0	061	31	1.4	1.2	057	31	1.4	0.3	307
0.15 a. g. . .	31	4.3	4.1	292	31	3.4	2.9	050	31	2.7	2.5	064	31	4.6	3.8	070	31	2.6	2.2	056	31	5.7	2.1	013
0.3 a. s. l. . .					31	3.4	2.7	052	31	2.8	2.6	065	31	4.1	3.4	069	31	2.6	2.3	059				
0.6 „ . . .	31	2.2	2.0	258	31	3.6	2.9	064	31	2.9	2.3	073	31	3.8	3.1	062	31	2.8	2.3	066	31	6.2	2.3	010
0.9 „ . . .	31	5.6	5.3	307	31	3.9	2.6	085	31	2.9	2.1	084	31	4.0	2.3	059	31	2.5	2.0	080	31	5.9	2.6	354
1.5 „ . . .	31	6.3	4.4	336	31	4.8	3.6	102	29	3.2	2.7	101	31	4.0	2.6	097	29	2.7	2.1	102	31	5.6	3.5	312
2.1 „ . . .	31	4.9	1.8	068	31	4.8	4.1	107	29	3.2	2.7	102	31	3.9	2.8	083	26	2.4	1.9	104	31	7.1	5.8	301
3.0 „ . . .	31	5.1	3.3	093	30	4.9	3.8	097	25	3.4	2.8	106	31	3.8	2.4	085	22	2.3	1.9	098	31	10.1	8.1	306
3.6 „ . . .	30	5.3	2.0	055	30	4.3	2.9	090	26	3.7	1.9	086	30	3.9	1.9	095	22	2.8	1.9	081	17	9.7	8.6	322
4.5 „ . . .	12	5.0	2.9	323	29	4.8	2.9	055	26	3.6	2.7	065	30	4.7	3.0	042	11	3.8	3.0	057	4	10.8	9.8	297
5.4 „ . . .	3	7.2	6.8	289	29	7.6	4.4	022	24	5.1	3.7	051	31	7.4	5.2	042	3	4.6	3.2	080				
6.0 „ . . .	3	6.5	6.5	260	29	8.1	4.3	018	22	6.0	3.9	047	31	7.5	3.7	035	1	3.1	3.1	086				
7.2 „ . . .					29	8.2	1.5	010	20	6.3	2.7	051	28	7.8	2.1	027								
9.0 „ . . .					23	8.7	2.2	237	14	6.3	1.5	077	18	6.6	1.3	254								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1939 (Phalgun 10, 1880—Chaitra 10, 1881 Saka)

Station	RAIPUR								RAXAUL								SANTACRUZ							
	1730				2330				0530				1130				1730				0530*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.1	1.3	290	31	2.1	0.9	219	31	0.5	0.4	090	31	1.5	1.4	101	31	1.2	0.1	224	31	1.4	1.2	018
0.15 a.g.	31	4.4	3.0	302	31	5.3	1.4	256	30	5.0	2.1	111	31	3.4	2.9	121	31	4.1	1.6	241	31	6.8	6.3	010
0.3 a.s.l.									30	5.4	2.0	122	31	3.6	2.9	122	31	4.3	1.6	244	31	6.4	5.7	005
0.6 "	31	4.6	3.4	294	31	5.3	1.9	269	30	5.3	1.1	145	31	4.2	2.3	133	31	4.9	2.3	246	31	7.6	6.8	002
0.9 "	31	4.8	3.7	292	31	5.4	2.5	278	30	4.5	1.2	245	31	4.7	1.5	155	31	5.0	2.6	250	31	7.7	6.7	360
1.5 "	31	5.0	4.1	292	31	5.1	3.6	285	30	4.5	2.2	280	30	4.5	1.5	236	31	4.6	3.5	258	31	7.4	4.5	340
2.1 "	31	5.9	5.0	293	31	5.9	4.9	300	29	9.8	4.4	290	25	4.1	1.4	264	30	6.4	4.7	287	31	6.3	1.7	303
3.0 "	31	9.8	8.5	306	31	7.9	7.0	309	26	12.1	7.9	290	22	9.2	7.8	257	30	11.4	11.0	285	31	6.3	1.2	214
3.6 "	31	10.4	9.3	307	20	8.9	8.1	321	18	13.4	13.3	295					28	14.7	14.3	284	31	6.4	1.9	271
4.5 "	27	11.9	11.0	303	6	10.3	9.6	310	9	12.3	11.9	290					23	17.4	17.2	287	30	7.9	3.8	303
5.4 "	22	13.8	12.5	302	2	5.9	5.7	314	6	11.2	11.0	287					16	19.8	19.1	287	30	9.2	7.6	292
6.0 "	12	15.5	14.8	297	2	6.9	6.6	321	4	11.6	11.2	283					12	18.6	17.1	292	30	10.6	8.7	289
7.2 "	6	17.2	16.6	287					3	9.9	9.7	283					6	21.0	19.9	296	30	13.3	12.2	284
9.0 "	2	7.7	7.6	290													5	27.7	26.4	283	24	20.2	19.1	284

Station	SANTA CRUZ												TEZPUR											
	1130				1730*				2330				0530				1130		1730					
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.8	1.7	285	31	6.4	5.8	316	31	2.0	1.5	336	31	1.4	1.1	056	31	2.7	2.5	084	31	1.1	1.0	086
0.15 a.g.	31	2.5	1.5	333	31	9.0	8.5	325	31	5.6	5.2	339	28	6.9	6.2	075	29	5.4	5.3	083	28	4.8	3.8	075
0.3 a.s.l.	31	3.1	2.0	024	31	8.2	7.5	323	31	6.4	5.8	340	28	7.4	6.9	084	29	5.5	5.3	082	28	4.9	3.7	077
0.6 "	31	5.5	3.2	021	31	6.8	5.3	321	31	7.3	6.7	344	28	5.3	4.8	097	29	5.8	5.5	089	28	3.4	1.4	076
0.9 "	31	6.4	3.6	010	31	6.0	4.5	326	31	7.4	6.7	347	27	4.2	2.3	119	29	4.8	3.4	101	28	3.3	0.6	275
1.5 "	31	6.4	3.0	320	31	5.0	2.7	319	31	5.9	4.4	342	26	4.5	2.4	242	28	4.9	1.6	161	27	5.3	4.6	258
2.1 "	31	5.5	0.9	251	31	4.7	0.3	255	31	4.8	2.1	323	23	6.0	5.3	253	22	5.7	4.1	240	26	8.1	7.4	250
3.0 "	31	5.9	0.9	208	31	5.8	0.9	148	31	5.6	0.7	143	18	7.1	5.6	264	13	5.7	3.3	263	13	7.3	6.8	247
3.6 "	31	6.4	1.6	285	31	6.6	0.7	329	28	6.8	0.6	113	10	6.6	3.5	268					5	5.7	4.8	244
4.5 "	31	7.7	4.1	309	31	7.7	3.7	315	19	6.6	2.9	291	4	6.9	3.9	300								
5.4 "	31	8.3	6.1	300	31	8.2	6.1	301	11	6.1	3.3	308	3	10.7	9.1	303								
6.0 "	31	9.3	7.6	292	31	8.8	7.4	290	8	6.9	4.6	285	2	17.5	16.1	316								
7.2 "	30	11.1	9.9	285	31	12.9	11.1	284					1	11.8	11.8	005								
9.0 "	26	18.1	16.7	287	24	20.3	18.1	286																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March 1959 (Phalguna 10—Chaitra 10, 1880—1881 Saka)

Station	TEZPUR				TIRUCHIRAPALLI												TRIVANDRUM							
	2330				0530				1730				2330				0530*				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.8	1.6	074	31	0.5	0.3	032	31	4.4	4.1	090	31	3.4	2.8	110	31	1.0	0.7	008	31	1.7	1.1	282
0.15 a.g.	30	7.1	6.5	086	31	3.7	2.1	100	31	6.3	5.8	085	31	6.7	6.0	110	31	2.9	1.9	345	31	2.8	2.1	254
0.3 a.m.s.l.	30	6.8	6.1	087	31	3.7	2.2	107	31	6.3	5.9	034	31	6.8	5.7	110	31	3.2	2.5	348	31	2.7	1.9	256
0.6 "	30	9.3	2.3	109	31	4.8	3.1	115	31	6.3	6.0	087	31	6.6	6.0	101	31	3.3	2.5	356	31	2.6	1.3	290
0.9 "	30	3.6	1.3	217	31	5.0	3.3	098	31	6.3	5.9	086	31	6.7	5.7	079	31	3.4	2.5	019	31	2.7	1.6	008
1.5 "	29	6.2	5.3	258	31	7.5	6.7	067	31	6.3	5.6	066	31	7.7	7.0	054	31	6.0	5.7	055	24	7.7	7.4	054
2.1 "	25	7.7	6.9	254	29	8.9	8.1	051	31	8.2	7.6	048	31	9.7	8.8	047	31	9.4	8.8	055	18	12.7	12.4	058
3.0 "	17	8.6	7.8	257	28	9.3	8.3	043	31	9.4	8.6	045	31	8.9	7.9	047	31	8.2	7.6	066	15	8.9	7.8	072
3.6 "	6	8.1	7.6	262	27	8.7	7.9	052	31	8.4	7.7	052	21	9.1	8.1	056	31	7.9	6.9	069	14	6.2	5.7	082
4.5 "	1	7.7	7.7	260	20	8.1	7.1	055	31	7.6	6.5	056	7	7.4	6.0	062	31	7.4	6.5	080	13	7.1	6.7	081
5.4 "	1	6.7	6.7	300	8	9.1	6.2	060	31	8.5	6.9	066					31	9.4	7.7	081	12	10.4	8.8	079
6.0 "	1	7.2	7.2	280	8	9.6	6.2	069	30	9.3	7.1	062					31	10.3	9.0	079	12	10.7	8.7	080
7.2 "					1	6.2	6.2	210	23	10.2	7.6	062					31	10.1	10.0	072	10	10.8	8.3	070
9.0 "									7	7.7	3.1	034					30	9.0	4.7	067	5	10.5	8.3	053

Station	TRIVANDRUM				UDAIPUR												VENGURLA							
	1730*				2330				0530				1730				2330				0530			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	3.6	2.9	234	30	1.3	0.6	3.9	31	0.3	0.3	251	31	2.1	1.0	259	31	0.6	0.5	246	31	0.5	0.5	005
0.15 a.g.	31	3.4	2.7	226	30	2.8	1.2	317	31	3.0	1.6	323	31	4.6	2.1	261	31	3.9	1.7	298	31	4.4	2.9	007
0.3 a.m.s.l.	31	4.0	3.1	234	30	2.9	1.4	297																
0.6 "	31	3.8	2.5	224	30	3.1	1.9	307	31	4.4	2.2	329												
0.9 "	31	3.1	0.7	139	30	3.2	2.1	357	31	6.5	4.5	295	31	5.1	2.3	269	31	5.5	2.4	306	31	4.9	3.4	359
1.5 "	30	6.9	6.5	058	29	6.9	6.5	058	31	6.7	5.1	279	31	4.6	2.8	380	31	6.0	4.5	280	31	5.8	4.7	004
2.1 "	30	11.0	10.7	041	29	10.0	9.7	056	30	8.1	6.6	374	31	5.0	3.4	283	31	6.3	4.3	269	31	8.0	6.3	007
3.0 "	30	9.2	8.6	057	27	9.5	8.6	064	23	7.6	6.5	286	31	7.7	6.1	278	29	8.7	6.3	266	30	7.4	4.0	025
3.6 "	30	8.1	7.4	060	20	7.3	6.5	085	9	8.1	6.4	282	31	9.4	8.0	280	25	8.4	6.7	266	30	5.1	3.3	083
4.5 "	30	7.6	6.8	074	11	8.5	8.0	089	1	11.8	1.8	270	31	11.6	10.0	280	12	10.2	9.0	285	30	5.5	4.2	083
5.4 "	30	9.6	8.5	075	4	6.5	6.4	088					31	15.2	14.0	284	3	10.5	9.7	280	13	5.7	5.0	027
6.0 "	30	9.9	9.2	073									31	17.5	16.9	284	1	13.4	13.4	275	3	5.3	4.6	345
7.2 "	30	10.9	9.2	065									25	23.1	22.5	281								
9.0 "	27	8.5	4.5	065									11	26.0	25.4	282								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Station	VENGURLA								VERAVAL															
	1730				2330				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.4	2.1	093	31	0.9	0.9	322	31	4.5	4.3	346	31	6.7	4.9	342	31	6.9	6.6	280	31	4.4	4.1	322
0.15 a.g.	31	4.6	4.2	288	31	4.5	4.1	242	31	9.7	8.5	339	31	5.7	4.3	347	31	10.5	8.8	285	31	7.8	7.0	316
0.3 a.m.s.l.	31	4.7	4.1	291	31	5.9	5.6	347	31	8.5	7.5	340	31	6.1	4.8	352	31	8.9	7.4	290	31	9.2	8.5	322
0.6 "	31	4.6	3.4	295	31	7.3	7.2	344	31	8.3	6.9	334	31	6.6	4.9	354	31	7.4	5.5	305	31	7.8	7.0	322
0.9 "	31	4.3	3.1	324	31	8.3	8.2	340	31	8.1	6.4	338	31	6.4	4.4	356	31	6.8	4.7	322	31	6.4	4.7	326
1.5 "	30	4.2	2.6	353	31	6.6	4.5	349	31	6.3	4.2	320	31	5.7	2.5	324	31	6.4	4.3	243	29	4.9	2.4	349
2.1 "	30	5.1	4.1	056	31	6.1	4.3	073	31	7.2	4.2	275	31	6.4	3.4	286	31	6.7	3.0	314	29	5.9	1.7	278
3.0 "	28	8.4	7.4	069	31	8.0	7.5	084	31	7.7	4.3	261	31	6.8	3.9	247	31	7.6	3.9	275	28	6.8	3.0	267
3.6 "	28	9.2	8.2	065	6	8.1	6.7	062	31	8.3	4.8	274	31	7.3	4.3	258	31	8.3	5.3	278	21	6.2	1.3	269
4.5 "	26	6.3	4.6	033					31	9.6	6.4	276	31	9.0	6.1	278	31	9.8	6.9	283	10	6.6	3.5	278
5.4 "	25	5.3	2.7	013					31	11.9	10.2	278	30	10.9	8.1	280	31	11.5	9.8	280	7	10.1	7.5	272
6.0 "	25	5.9	3.2	353					31	14.1	12.7	275	30	12.3	11.1	283	31	13.4	12.0	277	3	10.6	9.8	281
7.2 "	15	6.5	4.2	325					31	17.1	15.8	272	27	16.4	15.5	279	31	16.6	15.4	275				
9.0 "	3	4.5	2.1	330					30	25.8	22.9	280	11	23.3	21.9	284	30	25.7	23.3	275				

Station	VISAKHAPATNAM											
	0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.1	1.0	240	31	4.5	4.1	216	31	2.1	2.0	230
0.15 a.g.	31	3.9	3.8	239	31	4.5	3.8	201	31	4.3	4.2	228
0.3 a.m.s.l.	31	4.8	4.6	233	31	4.9	3.9	202	31	5.3	4.8	229
0.6 "	31	4.6	4.1	235	31	4.8	3.2	209	31	5.8	4.9	234
0.9 "	33	3.8	2.6	254	31	4.7	2.2	207	30	4.5	3.5	245
1.5 "	30	4.4	2.2	332	31	4.1	1.1	336	30	3.9	1.9	311
2.1 "	29	5.9	4.5	353	31	6.2	4.7	348	29	4.9	3.5	359
3.0 "	26	6.6	5.0	347	30	9.4	8.6	343	27	6.7	5.0	356
3.6 "	21	7.1	5.3	337	30	9.8	8.9	343	16	6.0	4.6	339
4.5 "	12	8.9	5.6	321	29	8.4	7.3	328	9	7.1	6.3	305
5.4 "	2	14.2	13.7	338	28	8.8	7.6	315	5	6.3	5.3	280
6.0 "									2	6.9	6.8	287
7.2 "					28	10.0	8.4	304				
8.0 "					24	12.0	10.8	297				
9.0 "					7	19.1	16.0	302				

TABLE V.—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level.

March, 1959 (Phalguna 10, 1889—Chaitra 10, 1951 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
AGARTALA					1730 hrs.*					1130 hrs.					GOPALPUR					1130 hrs.				
0530 hrs.					10.5	13	41.3	39.6	266	10.5	2	31.1	27.0	260	10.5	1	13.9	13.9	255	10.5	11	8.7	4.5	285
10.5	2	30.6	29.6	272	12.0	8	39.9	38.5	290	12.0	1	38.1	38.1	300	12.0	4	6.8	3.3	243	12.0	4	6.8	3.3	243
					14.1	2	35.7	34.8	239						12.0	1	24.7	24.7	250	14.1	3	6.5	3.7	193
AMBALA					BANGALORE					1730 hrs.*					1730 hrs.									
1730 hrs.					10.5	24	25.8	23.1	281	10.5	14	21.1	19.5	292	10.5	14	21.1	19.5	292	16.2	1	11.8	11.8	240
10.5	2	23.4	22.1	337	12.0	20	28.3	24.0	272	12.0	10	21.4	20.3	255	12.0	10	21.4	20.3	255	18.0	1	2.1	2.1	340
12.0	1	18.0	18.0	305	14.1	15	27.6	25.7	268	14.1	6	26.1	23.2	258	10.5	29	9.6	4.6	283	10.5	29	9.6	4.6	283
14.1	1	27.8	27.8	300	16.2	5	17.7	8.5	292	16.2	3	25.4	23.3	286	12.0	28	10.9	6.4	260	12.0	28	10.9	6.4	260
16.2	1	39.1	39.1	295	18.0	3	19.0	0.7	276	18.0	1	24.2	24.2	310	14.1	22	12.9	3.1	258	14.1	22	12.9	3.1	258
					21.0	1	40.1	40.1	180						16.2	20	11.1	3.3	010	16.2	20	11.1	3.3	010
AMRITSAR					GADAG					1730 hrs.					GORAKHPUR					1730 hrs.				
0530 hrs.*					21.0	1	9.3	9.3	125	10.5	15	8.5	6.9	267	10.5	6	30.0	28.3	280	10.5	6	30.0	28.3	280
10.5	22	42.9	41.9	275	10.5	15	8.5	6.9	267	12.0	3	9.8	37.4	275	12.0	3	9.8	37.4	275	18.0	4	8.7	6.4	110
12.0	5	55.6	54.1	275	12.0	12	10.2	7.7	263	14.1	1	16	21.6	300	18.0	1	12.4	12.4	010	18.0	1	12.4	12.4	010
					14.1	4	8.1	5.8	220						MANGALORE					1730 hrs.				
1730 hrs.*					10.5	12	21.5	17.9	289	16.2	2	4.6	2.9	087	10.5	1	12.4	12.4	305	10.5	1	14.9	14.9	325
10.5	16	40.6	39.1	275	12.0	5	21.3	15.5	285	18.0	1	3.6	3.6	225	12.0	1	12.4	12.4	305	10.5	1	14.9	14.9	325
12.0	9	52.0	51.4	274	14.1	1	24.2	24.2	260	21.0	1	19.0	19.0	315	12.0	4	9.9	7.8	058	12.0	4	9.9	7.8	058
14.1	1	64.8	64.8	270	24.0	1	23.2	23.2	295	24.0	1	23.2	23.2	295	12.0	3	11.8	9.6	072	12.0	3	11.8	9.6	072
ANANTAPUR					BHUIJ					GANNAVARAM					JABALPUR					NAGPUR				
0530 hrs.					10.5	1	26.7	26.7	300	10.5	3	23.7	23.5	298	10.5	3	23.7	23.5	298	10.5	3	23.7	23.5	298
10.5	1	17.0	17.0	320	10.5	1	26.7	26.7	300	12.0	2	24.7	24.5	309	12.0	2	24.7	24.5	309	10.5	27	25.5	23.3	279
					12.0	1	11.3	11.3	210	14.1	2	37.0	37.0	308	14.1	2	37.0	37.0	308	12.0	21	27.4	25.5	272
1730 hrs.					10.5	1	28.8	28.8	270	10.5	10	14.4	12.0	276	10.5	1	25.2	25.2	280	14.1	14	22.7	20.5	272
10.5	3	14.1	10.7	327	10.5	1	28.8	28.8	270	12.0	5	18.2	16.0	269	12.0	1	25.2	25.2	280	16.2	9	18.9	17.5	247
					14.1	2	17.8	16.2	290	14.1	2	17.8	16.2	290	10.5	17	34.0	32.27	278	18.0	3	10.8	9.2	299
ASANSOL					COCHIN					GAUHATI					JODHPUR					1130 hrs.				
1730 hrs.					10.5	2	3.9	3.8	160	10.5	14	33.5	33.3	280	10.5	17	34.0	32.27	278	10.5	2	27.0	26.7	261
10.5	2	22.4	22.1	268	10.5	2	3.9	3.8	160	12.0	6	26.7	24.1	274	12.0	11	44.5	41.9	281	10.5	27	23.8	22.2	276
12.0	1	18.5	18.5	275						14.1	3	26.9	26.8	278	14.1	2	32.1	30.1	278	12.0	24	24.5	22.5	274
					10.5	4	28.8	28.0	300	16.2	2	26.7	26.7	250	14.1	4	42.7	39.6	280	14.1	18	21.5	20.0	273
BAIRAGARH					DEHRADUN					1730 hrs.*					MADRAS					1730 hrs.*				
1730 hrs.					10.5	4	28.8	28.0	300	10.5	15	32.9	29.9	278	10.5	17	36.5	35.1	274	10.5	27	23.8	22.2	276
10.5	2	27.8	27.4	284	12.0	1	25.7	25.7	300	12.0	6	26.7	24.1	274	12.0	9	40.0	37.6	284	12.0	24	24.5	22.5	274
12.0	1	21.6	21.6	280						14.1	3	26.9	26.8	278	14.1	4	42.7	39.6	280	14.1	18	21.5	20.0	273
					10.5	15	32.9	29.9	278	16.2	2	26.7	26.7	250	16.2	2	28.8	26.5	261	18.0	10	21.1	20.0	275
BAMRAULI					DUM DUM					1730 hrs.*					NEW DELHI					0530 hrs.*				
0530 hrs.*					10.5	26	29.6	27.6	274	10.5	40	30.0	27.8	272	10.5	27	10.9	5.8	262	10.5	21	36.8	26.2	292
10.5	15	37.4	34.2	276	12.0	20	30.8	28.3	269	12.0	10	30.0	27.8	272	12.0	26	11.6	6.5	275	12.0	18	43.5	41.4	286
12.0	7	48.7	45.6	287	14.1	12	35.5	33.6	273	10.5	2	49.6	48.7	307	14.1	20	11.1	3.9	273	14.1	10	43.3	42.4	282
14.1	1	53.0	53.0	289	16.2	5	29.6	23.4	244	12.0	1	25.5	25.5	300	16.2	10	8.7	3.2	076	16.2	3	43.6	43.0	283
										14.1	3	29.7	28.4	240	21.0	1	14.4	14.4	300	21.0	1	14.4	14.4	300
										14.1	3	29.7	28.4	240	21.0	1	14.4	14.4	300	21.0	1	14.4	14.4	300

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

March, 1938 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D			
		1130 hrs.						1130 hrs.						1130 hrs.			
10.5	2	27.0	25.5	269	10.5	14	21.6	19.8	286	10.5	4	29.1	26.6	281			
12.0	1	28.3	28.3	310	12.0	5	25.4	24.4	276			1730 hrs.*					
		1730 hrs.*				14.1	1	36.5	36.5	310	10.5	27	29.3	26.4	277		
10.5	16	36.2	34.0	285			1730 hrs.*				12.0	24	31.4	27.3	273		
12.0	14	47.0	44.4	285	10.5	13	24.5	21.9	277	14.1	18	27.2	25.1	272			
14.1	6	45.6	44.2	285	12.0	10	24.3	22.7	274	16.2	14	20.9	19.7	265			
16.2	1	43.2	43.2	270	14.1	3	31.5	31.4	253	18.0	10	12.6	9.4	282			
		POONA						TIRUCHIRAPALLI				21.0	1	2.1	2.1	050	
		1730 hrs.						1730 hrs.						VISAKHAPAMTAM			
10.5	6	17.5	16.6	279	10.5	3	5.1	2.0	023			1730 hrs.					
12.0	5	16.8	15.4	265	12.0	1	4.6	4.6	025	10.5	3	16.1	15.7	286			
14.1	3	22.0	16.9	268			TRIVANDRUM										
16.2	2	5.7	5.6	290			0530 hrs.*										
		PORTBLAIR				10.5	22	8.0	2.2	103							
		0530 hrs.*				12.0	20	9.9	2.0	065							
10.5	16	9.0	5.2	202	14.1	9	10.4	1.2	345								
12.0	9	14.2	10.7	190	16.2	7	6.4	2.0	309								
14.1	5	13.4	8.9	189			1130 hrs.										
16.5	3	13.2	8.9	235	10.5	2	7.2	7.2	331								
18.0	2	3.6	2.1	065	12.0	1	8.7	8.7	305								
		1130 hrs.						- 1730 hrs.*									
10.5	7	8.0	1.1	079	10.5	26	9.4	3.1	120								
12.0	3	7.6	4.3	225	12.0	24	11.4	3.7	046								
14.1	2	4.1	4.0	145	14.1	15	9.6	2.9	043								
		1730 hrs.*				16.2	10	9.3	3.7	070							
10.5	12	7.8	5.4	215	18.0	1	15.4	15.4	075								
12.0	9	8.3	6.3	200			UDAIPUR										
14.1	2	18.5	10.8	160			1730 hrs.										
		RAIPUR				10.5	3	22.5	21.7	299							
		1730 hrs.				12.0	2	25.5	25.2	318							
10.5	2	18.8	18.8	292	14.1	2	30.6	30.3	302								
12.0	1	12.9	12.9	305	16.2	1	40.6	40.6	300								
		RAXAUL						VERAVAL									
		1730 hrs.						0530 hrs.*									
10.5	2	34.2	33.5	299	10.5	29	32.0	29.9	273								
12.0	1	22.7	22.7	295	12.0	25	31.9	29.6	273								
		SANTACRUZ				14.1	19	29.2	27.6	272							
		0530 hrs.*				16.2	8	15.0	11.8	263							
10.5	19	21.3	19.8	277	18.0	4	16.5	14.8	289								
12.0	9	21.5	19.6	265	21.0	1	5.7	5.2	020								
14.1	4	23.8	20.3	266													
16.0	2	18.8	18.2	284													

RADIOSONDE DATA

March, 1959 (Phalguna 10, 1880--Chaitra 10, 1881 Saka) .

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

Serial No.	Name of Station	Type of instrument used	Date of starting	Hours of routine observations in GMT during the month	Remarks
1	Allahabad	Clock type	1st October, 1944	00 and 12	
2	Amritsar	Clock type	21st June, 1957	00 and 12	
3	Bombay	Clock type	7th September, 1954	00 and 12	
4	Calcutta	Clock type	13th December, 1946	00 and 12	Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July, 1955	00 and 12	
6	Jodhpur	Clock type	17th April, 1946	00 and 12	
7	Madras	Fan type	29th June, 1946	00 and 12	
8	Nagpur	Fan type	1st October, 1946	00 and 12	
9	New Delhi	Clock type	3rd December, 1943	00 and 12	
10	Port Blair	Fan type	4th December, 1949	00 and 12	
11	Trivandrum	Fan type	1st July, 1947	00 and 12	
12	Veraval	Fan type	3rd October, 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December, 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 hrs. G. M. T.

March, 1959 (Phalgunā 10, 1880—Chaitra 10, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1009 mb.)						NAGPUR (975 mb.)						NEW DELHI (986 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	297.5	299	295	294.8	31	311	293.2	300	287	278.0	31	210	289.2	297	285	284.0
1000	31	097	..	..	..	..	31	091	..	..	..	..	31	088	..	..	..	..
900	31	1017	296.0	301	291	275.6	31	1012	298.8	307	296	274.4	31	997	294.8	302	288	275.5
850	31	1512	293.5	298	289	273.7	31	1510	295.0	300	292	272.4	31	1490	291.8	299	284	271.9
800	31	2032	289.8	294	285	271.8	31	2031	290.7	296	287	271.1	31	2006	288.3	295	281	268.7
700	31	3155	282.9	288	279	263.4	31	3154	281.5	286	276	267.2	31	3122	280.7	285	275	262.9
600	31	4421	276.7	279	274	252.3	31	4408	273.3	278	265	249.4	31	4370	271.3	275	263	257.0
500	31	5877	267.6	275	265	..	31	5848	264.9	273	258	..	31	5793	261.4	267	257	..
400	31	7596	257.4	265	253	..	31	7544	252.7	259	246	..	31	7463	249.2	254	244	..
300	30	9714	243.5	253	236	..	30	9611	237.9	248	230	..	30	9505	234.9	242	228	..
250	27	10990	234.8	240	227	..	29	10862	230.7	235	220	..	30	10739	227.3	236	220	..
200	26	12485	224.7	230	217	..	26	12332	220.1	226	209	..	26	12203	220.0	230	211	..
175	20	13344	218.2	225	212	..	24	13192	215.6	224	205	..	24	13069	216.3	226	209	..
150	19	14331	212.2	220	205	..	23	14156	209.6	222	200	..	22	14041	213.2	220	207	..
125	17	15418	205.5	213	198	..	22	15255	204.6	217	196	..	21	15167	209.1	216	205	..
100	14	16793	200.1	207	192	..	15	16632	202.5	212	195	..	18	16502	204.9	211	200	..
80	9	18269	198.1	204	195	..	11	17911	200.4	207	196	..	12	17831	204.6	211	199	..
	PORT BLAIR (1002 mb.)						TRIVANDRUM (1003 mb.)						VERAVAL (1010 mb.)					
Surface	30	079	297.1	302	295	295.6	31	064	298.6	301	296	294.2	31	008	293.3	297	290	288.4
1000	30	100	..	..	..	..	31	088	..	..	..	..	31	097	..	..	..	..
900	30	1021	293.6	296	291	289.9	31	1010	294.1	299	291	284.0	31	1020	296.7	303	293	273.3
850	30	1514	291.4	294	287	286.4	31	1502	291.4	294	288	278.1	31	1517	293.7	299	290	269.9
800	30	2032	288.5	291	285	283.5	31	2021	288.4	292	286	272.9	31	2037	290.4	294	287	267.7
700	30	3154	282.5	286	278	276.0	31	3142	282.8	287	277	259.4	31	3161	282.3	287	280	260.8
600	30	4419	276.3	281	273	267.8	31	4404	276.1	283	271	251.3	31	4422	274.9	280	270	251.4
500	30	5874	267.9	272	264	..	31	5854	266.8	271	263	..	31	5866	265.2	270	261	..
400	30	7591	256.4	261	251	..	31	7567	256.0	264	249	..	31	7562	253.5	259	247	..
300	22	9699	242.0	251	238	..	31	9660	240.3	251	234	..	31	9643	239.9	244	233	..
250	16	10963	231.3	236	229	..	27	10910	229.4	238	221	..	31	10902	231.3	237	224	..
200	11	12442	220.9	226	217	..	25	12395	219.5	227	211	..	31	12383	221.3	230	215	..
175	9	13299	215.3	219	212	..	22	13221	213.3	221	207	..	29	13270	216.0	225	211	..
150	8	14254	209.6	214	205	..	18	14184	207.3	216	200	..	29	14201	210.3	221	204	..
125	7	15377	204.6	208	201	..	15	15281	202.9	210	194	..	26	15318	205.8	216	197	..
100							14	16560	198.9	209	191	..	23	16661	201.1	208	190	..
80							7	17952	197.7	209	189	..	18	18011	199.8	208	194	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 hrs. G. M. T.

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1006 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	298.3	301	296	293.5
1000	30	097	..	..	..	..
900	30	1024	296.8	300	294	280.1
850	30	1523	294.1	297	288	276.2
800	30	2044	290.0	293	287	274.7
700	30	3167	282.1	285	278	265.7
600	30	4432	276.3	281	271	255.4
500	30	5888	267.8	271	259	..
400	30	7600	255.5	262	248	..
300	28	9696	241.0	247	232	..
250	25	10955	231.9	237	220	..
200	18	12426	220.3	227	211	..
175	15	13254	213.5	221	208	..
150	13	14224	208.8	216	202	..
125	10	15346	204.3	210	198	
100	9	16701	199.4	204	187	
80						

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 hrs. G. M. T.

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1008 mb.)						NAGPUR (970 mb.)						NEW DELHI (985 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	302.6	304	300	295.2	31	311	308.6	312	305	279.3	31	210	302.6	307	297	282.3
1000	31	086	..	..	..	..	31	059	..	..	..	..	31	074	..	..	..	..
900	31	1015	297.7	301	293	279.2	31	1008	302.9	307	299	274.8	31	1004	297.9	305	292	276.3
850	31	1514	295.0	298	291	275.5	31	1513	297.8	303	292	272.1	31	1501	294.4	300	289	271.7
800	31	2034	291.5	295	286	273.7	31	2039	292.9	298	287	271.7	31	2021	290.3	296	284	269.0
700	31	3165	284.4	288	280	260.9	31	3168	282.5	288	277	266.3	31	3142	282.1	292	275	260.2
600	31	4437	278.0	281	275	248.4	31	4427	273.7	279	267	255.7	31	4399	272.9	278	267	244.7
500	31	5900	268.9	272	266	..	30	5865	264.4	270	256	..	31	5825	262.6	267	258	..
400	31	7624	257.3	261	251	..	30	7561	253.0	258	247	..	31	7504	250.6	256	240	..
300	31	9737	242.6	250	238	..	30	9635	238.3	245	232	..	26	9564	236.6	243	232	..
250	30	11010	234.4	244	229	..	29	10896	230.4	238	224	..	26	10809	228.8	237	220	..
200	27	12496	222.5	230	213	..	27	12375	220.5	229	213	..	22	12271	220.7	228	209	..
175	24	13351	217.5	226	209	..	26	13233	216.0	224	209	..	21	13184	218.0	223	210	..
150	22	14340	212.5	222	201	..	25	14200	211.0	221	205	..	16	14108	213.2	220	206	..
125	21	15452	207.3	215	195	..	22	15308	206.8	215	200	..	10	15283	209.6	215	204	..
100	18	16761	200.3	210	192	..	21	16659	203.4	212	197	..	7	16706	206.1	210	201	..
80	7	18032	199.8	207	195	..	15	18015	202.7	215	196	..						
	PORT BLAIR (1001 mb.)						TRIVANDRUM (1001 mb.)						VERAVAL (1009 mb.)					
Surface	31	079	300.7	303	299	295.8	31	064	303.6	305	301	295.2	31	008	300.4	303	298	295.7
1000	29	087	..	..	..	..	31	076	..	..	..	..	31	091	..	..	..	..
900	29	1012	293.7	298	291	291.6	31	1006	295.7	299	293	288.3	31	1021	298.0	304	293	276.3
850	29	1505	291.0	293	289	287.4	31	1501	292.8	297	289	285.1	31	1518	293.9	301	289	273.8
800	29	2023	288.4	291	286	279.8	31	2022	289.9	292	286	280.4	31	2040	290.2	294	287	271.9
700	29	3144	282.5	286	279	275.8	31	3146	284.1	287	281	264.8	31	3163	283.1	287	281	263.7
600	29	4411	276.5	282	273	268.5	31	4417	277.3	281	274	256.5	31	4424	274.4	280	272	254.3
500	29	5866	268.8	279	265	..	31	5877	268.7	273	263	..	31	5868	265.5	258	262	..
400	27	7583	256.9	260	253	..	31	7600	258.0	263	252	..	31	7565	253.7	258	248	..
300	19	9680	241.4	244	236	..	30	9711	242.3	251	235	..	31	9647	239.6	247	233	..
250	17	10941	231.4	237	225	..	30	10982	232.6	238	221	..	28	10902	229.3	239	222	..
200	10	12411	219.7	224	213	..	29	12470	221.3	230	212	..	28	12381	220.9	230	208	..
175	9	13237	212.6	218	203	..	24	13294	214.7	222	206	..	26	13251	215.6	224	206	..
150	7	14195	206.0	208	199	..	23	14254	208.3	217	202	..	26	14211	209.7	219	201	..
125							23	15339	202.3	210	196	..	25	15314	204.1	216	196	..
100							18	16643	199.0	207	191	..	21	16661	198.9	209	190	..
80							8	18062	201.9	207	192	..	20	17962	198.4	206	194	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 hrs. G. M. T.

March, 1959 (Phalguna 10, 1880—Chaitra 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1004 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	301.9	303	300	296.3
1000	30	084	..	..	..	..
900	30	1017	298.1	302	295	280.9
850	30	1518	295.1	299	291	277.4
800	30	2042	291.8	295	288	275.1
700	30	3171	282.9	287	279	269.7
600	30	4438	276.5	282	273	253.4
500	30	5898	268.4	273	265	..
400	30	7613	255.6	261	251	..
300	26	9722	242.1	248	236	..
250	24	10992	233.3	239	230	..
200	22	12487	223.5	232	216	..
175	18	13342	217.3	225	211	..
150	18	14316	211.9	221	205	..
125	13	15410	205.3	211	199	..
100	10	16767	201.0	208	195	..
80	7	18093	198.1	210	195	..

Note : Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273 °A.

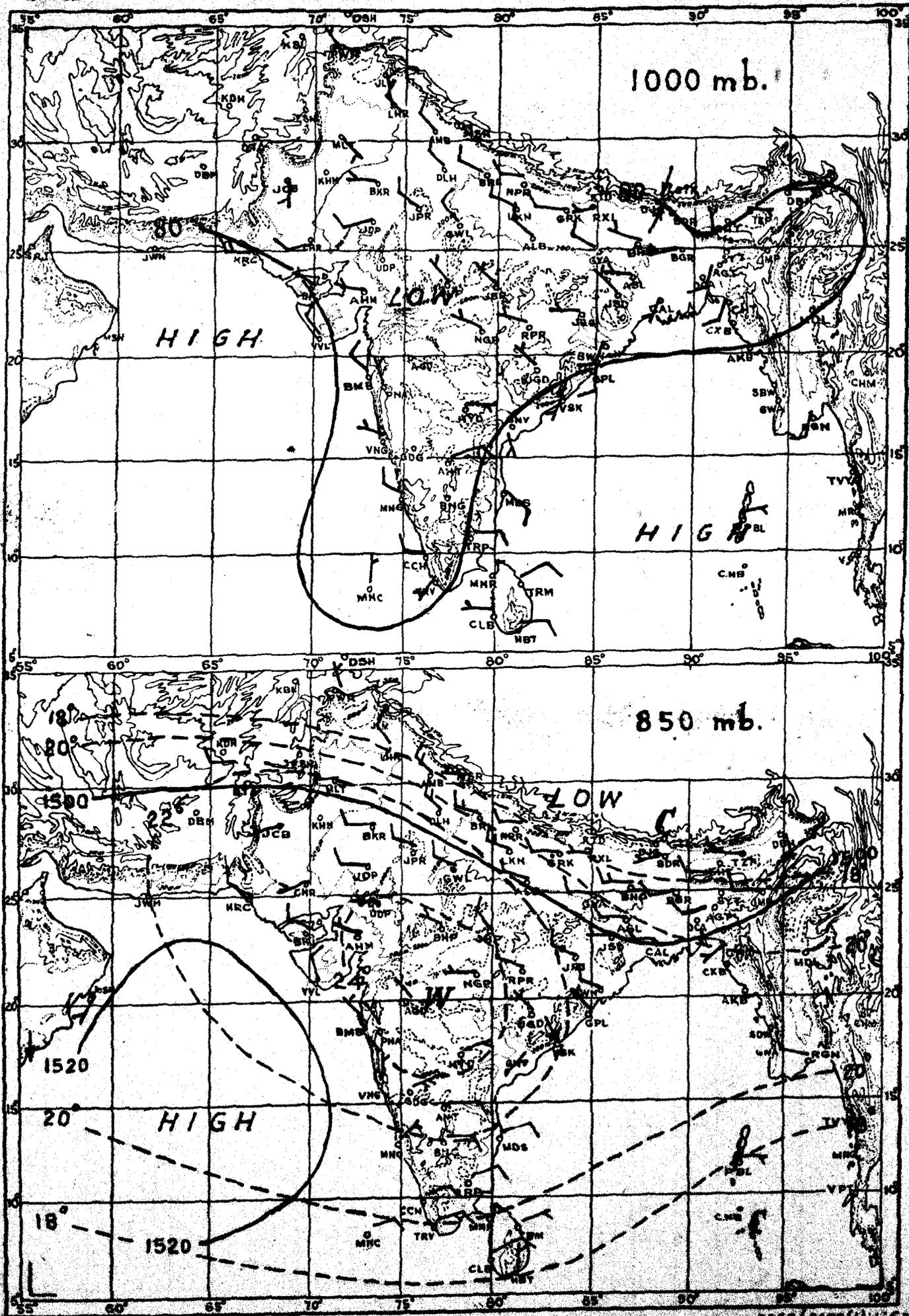
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

MARCH 1959

I. Met. D.

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ——— Contours in geopotential metres.

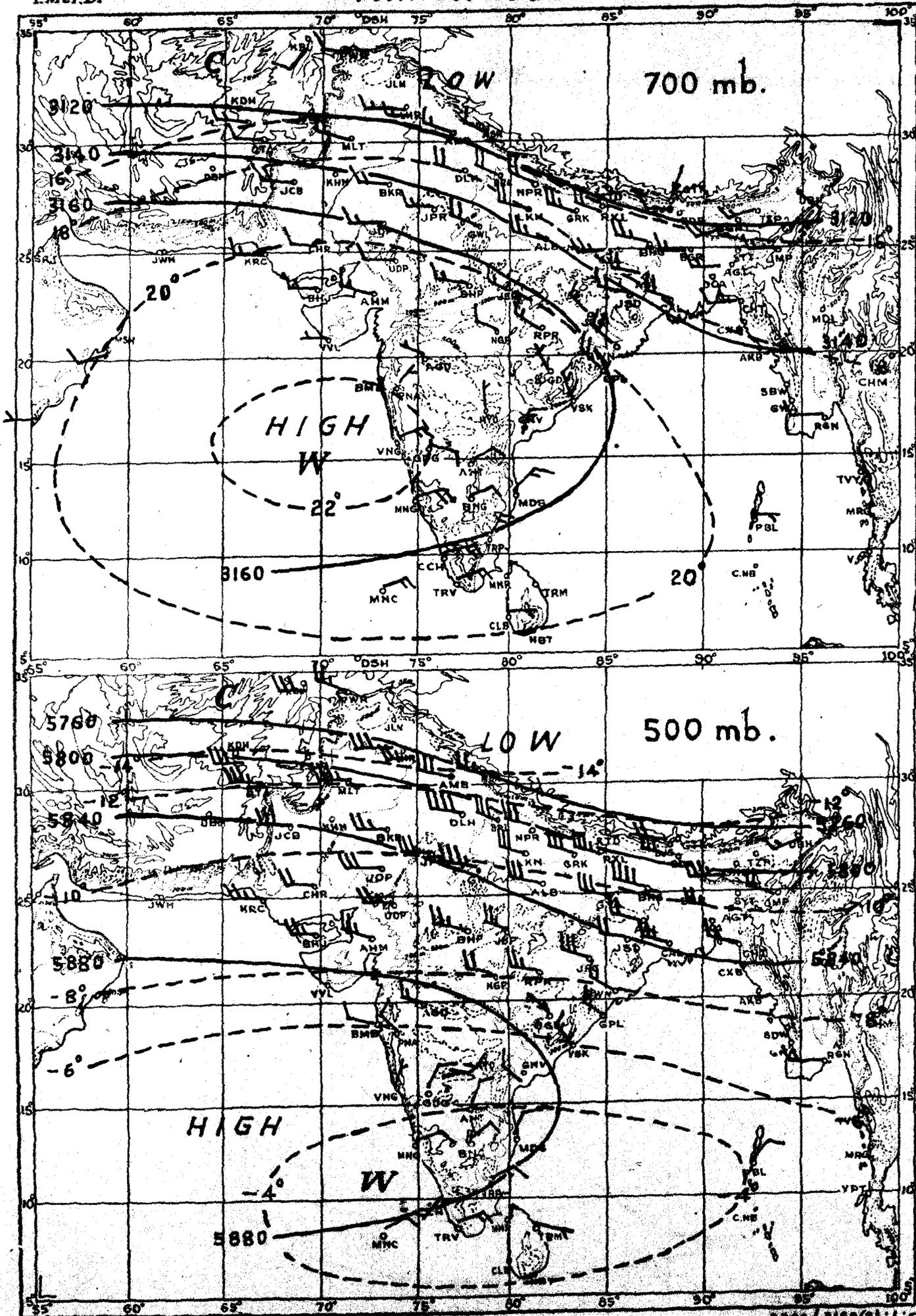
1959-03-01 12Z

MONTHLY MEAN CONSTANT PRESSURE CHARTS

MARCH 1959

Plate II

I.Met.D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade

————— Contours in geopotential metres.



Registered No. B-3097

INDIA WEATHER REVIEW, 1959
Monthly Weather Report
APRIL

2 JUN 14
Copy 1955

Published by authority of the Government of India

Chief features—

More than usual thunderstorm activity over most of the Peninsula.

Three western disturbances moved across the country during the month. The first appeared over Baluchistan on 2nd April and moved away across the northern parts of the country on 5th. Local rain or snow occurred in Jammu and Kashmir from 3rd to 5th. The second western disturbance was located over Sind on 16th. It moved away across Himachal Pradesh and the Punjab Kumaon hills by 20th. Himachal Pradesh recorded local thundershowers on that day. The third western disturbance lay over upper Sind and the neighbourhood on 21st. It took an easterly course and moved away across northeast India by 26th. Jammu and Kashmir had scattered thundershowers on 23rd and 24th. Also in association with the last two western disturbances, moist southerlies penetrated into the Peninsula and into the adjoining parts of north India in the lower troposphere. This incursion of moist air gave rise to considerable thunderstorm activity over most of the country, particularly over the peninsula during the third week of the month. Fairly widespread thundershowers occurred in Kerala from 16th to 18th, in Vidarbha on 18th and in north Interior Mysore on 27th. Isolated hailstorms occurred in Maharashtra on the evening of 27th.

In association with the passage of an easterly wave across the southwest Bay of Bengal and the Comorin-Maldiva areas, there was good thunderstorm activity over the extreme south Peninsula during the first week of April. Fairly widespread or local thundershowers occurred in Kerala from 4th to 6th. Punalur recorded 6cms of rain on 5th as well as on 6th. In association with another easterly wave, fairly widespread or local thundershowers occurred in the Bay Islands from 19th to 22nd. Port Blair recorded 8 cms of rain on 21st.

Day temperatures were appreciably to markedly above normal in northeast Assam, the Punjab (I), Gujarat and Saurashtra and Kutch between 6th and 9th, in Madhya Pradesh, east Uttar Pradesh and Bihar from 11th to 14th and in Rajasthan from 8th to 17th.

Total rainfall during the month was in large excess in the Bay Islands, Bihar Plains, west Madhya Pradesh, Gujarat, Maharashtra and coastal Andhra Pradesh, in moderate excess in Bihar Plateau, west Rajasthan, the Madras State and north Interior Mysore and in slight excess in Orissa, Vidarbha, Rayalaseema and the Arabian Sea Islands. It was normal in Sub-Himalayan West Bengal, in slight defect in Assam, Gangetic West Bengal, east Madhya Pradesh and Kerala, in moderate defect in east Uttar Pradesh, east Rajasthan and south Interior Mysore and in large defect over the rest of the country except in the Punjab (I), where there was no rain.

The mean maximum temperature was above normal in the Bay Islands, Assam, west Rajasthan and the Arabian Sea Islands and normal over the rest of the country. The mean minimum temperature was above normal in Assam, West Bengal, Jammu and Kashmir, west Rajasthan, Gujarat, Saurashtra and Kutch, the Konkan and Maharashtra and normal over the rest of the country.

The mean relative humidity in the morning was above normal in Sub-Himalayan, West Bengal, Bihar Plains, the Punjab (I), Rayalaseema and the Arabian Sea Islands and below normal in Jammu and Kashmir. It was normal over the rest of the country.

The mean cloud amount in the morning was above normal in east Rajasthan, West Madhya Pradesh, Gujarat, Maharashtra, Vidarbha, the Madras State, Interior Mysore State, Kerala and Arabian Sea Islands and below normal in Gangetic West Bengal and Jammu and Kashmir. It was normal over the rest of the country.

174

Table I contains the divisional and sub-divisional means of rainfall, temperatures, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,
The 18th August, 1960.

C. RAMASWAMY,
for Director General of Observatories.

Line	Description	Amount	Unit	Material	Quantity
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

Errata to M.W.R. April, 1959 (Chaitra 11 - Vaisakha 10, 1881 Saka)

Page No.	Station	Hour	Column	For	Read
----------	---------	------	--------	-----	------

Table I - Sub-Division.

175	7. Bihar Plains		8	1.7	1.6
175	22. Coastal Ardhra-Pradesh		9	---	3.5

Table II.

176	Golaghat		8	16.3	16.1
177	Belasore		4	43.1	43.9
177	Motihari		2	32.2	36.2
179	Gwalior (PBO)		5	17.0	17.30
179	Dohad		19	+5.5	---
180	Rajkot (Aerodrome)		19	+6.7	---
180	Deolali		6	25.9	20.9
180	Aurangabad		3	+0.1	+1.0
181	Kurnool		6	(Not clear)	25.9
182	Lokpal		14	3,6	3,26
182	Trincomalee		1	Trincomalee	Trincomalee

Table III.

185	Goalpara	0830	8	22.8	22.6
185	Kailashar (CWO)	0530	1	Kailashar (CWO)	Kailashar (CWO)
185	Silchar (Kumbhigram Aerodrome)	0530	11	96	86
186	Contai	1730	4	1035.1	1005.1
186	Asansol	0230	25	3	0
186	Asansol	0830	27	6	1
187	Patna (Aerodrome)	1730	17	0	3
188	Varanasi (Banaras)	0830	21	(Not clear)	0
188	Varanasi (Banaras)	1730	21	(Not clear)	0
188	Varanasi (Banaras) (Babatpur Aerodrome)	0530	21	(Not clear)	1
188	Varanasi (Banaras) (Babatpur Aerodrome)	0830	21	Blank	2
188	Varanasi (Banaras) (Babatpur Aerodrome)	1730	3	9.7	7.9
188	Kanpur (Aerodrome)	1730	17	Blank	6
189	Hardoi	0830	13	0.1	1.0
189	Meerut	0830	12	-4	+3
189	Roorkee	0830	12	+3	+4
189	New Delhi (Palam Aerodrome)	0830	8	19.8	17.8
189	New Delhi (Palam Aerodrome)	2330	13	Blank	1.2
190	Ambala	0230	13	1.9	1.8
191	(Foot note)	-	-	*Temporarily closed.	*Temporarily closed.
192	Tonk	1730	13	2.3	2.6
192	Kotah	1730	3	Blank	,,
192	Chambal	1730	3	321	,,
192	Indore	0530	3	507	567
192	Khandwa	0830	3	,,	318

Contd! 2

Page No.	Station	Hour	Column	For	Read
Table III (Contd.)					
192	(Foot note)	-	-	(9) Mean of 29 days	(b) Mean of 29 days
192	(Foot note)	-	-	*Observations except wind data 9 days.	* Observations except wind data, for 29 days.
193	Betul	1730	7	35.6	35.5
193	Kanker	0830	6	-0.7	+0.7
193	Deesa	0830	6	-0.4	+0.4
194	Dohad	0830	25	3	4
194	Naliya	0830	3	,,	---
194	Naliya	1730	3	,,	---
194	Porbander (Aerodrome)	0830	21	3	1
194	Bhavnagar (Aerodrome)	1130	23	1	2
194	Bhavnagar (Aerodrome)	1730	7	27.5	37.5
195	Bombay (Colaba)	1730	7	31.8	31.3
198	Salem	0530	16	Blank	0
199	Balehonnur	0830	3	,,	---
199	Kozhikode	0830	15	0	4.0
199	Kozhikode	1130	15	.9	10.9
199	Kozhikode	1130	28	Blank	0
200	Fort Cochin	0830	11	17	77
200	Kohima	0830	12	Blank	..
200	Mussoorie	0830	14	-0.6	+0.6
200	Dalhousie	1730	15	0.0	0
201	Abu	1730	5	879.3	879.8
201	Bhimkund	1730	27	Blank	8

Page No.	Station	Time in I.S.T.	Ht. in Km.	Entry under column	Existing entry	Correct entry.
205	Bhagalpur	-	-	Approximate times of flight (IST)	0530,1730	0530,1130,1730,
205	Cochin	-	-	Height of Anemometer	8	13
205	Jamshedpur	-	-	Approximate time of flight (IST)	0530,1730	0530,1130,1730.
205	Santa Cruz	-	-	Height of Anemometer	14	27
206	Agartala	1730,2330	7.2	n V v D	Values printed up slightly.	
206	Amausi	0530	-	Time in IST	0 30	0530
207	Amritsar	1730	9.0	D	558	258
210	Cochin	2330	3.6	v	4.4	6.4
213	Gwalior	0530	0.15	D	3 6	306
214	Jagdelpur	1730	9.0	V	13.1	13.1
214	Jaipur	1730	-	Time in IST	1130	1730
214	Jamshedpur	1730	9.0	n	1	8
214	Jharsuguda	2330	0.9	v	6.1	3.1
216	Minicoy	1730	7.2	n	-	8
216	Mohankari	2330	0.3 to 5.4	n V v D	Values printed against levels 0.6 to 6.0 may be read for the levels from 0.3 to 5.4	
219	Tezpur	2330	-	Time in IST	2330 *	2330
219	Tiruchirapalli	0530	3.6	D	061	067
221	Pooma	1730	-	Time in IST	1130	1730
222	Tiruchirapalli	1730	-	Time in IST	1730 hrs*	1730 hrs.
Radiosonde Data						
225	Veraval	00 GMT	150 mb	Mean	21.37	213.7
228	New Delhi	12 GMT	80 mb	Ht. in gpm	-	18116
				Mean	-	205.2
				Max.Min.	-	213, 198

1	Rainfall (millimetres)	3	4	5	Relative humidity %		Cloud		1	2	3	4	5	Relative humidity %		Cloud								
	2				Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	0830 hrs. I.S.T.						1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.	6	7	8	9	6	7	8	9
Division									Division—contd.															
1. Assam (Including Manipur, Tripura).	152.5	76	31.2	21.2	75	66	4.0	3.9	8. Rajasthan . . .	4.7	0	38.3	22.3	32	17	1.5	2.5							
	-49.0	..	+1.3	+1.4	0	..	-0.5	..		0	..	+1.1	+0.9	-2	..	+0.2	..							
2. West Bengal . . .	48.3	91	36.3	24.7	67	51	2.3	2.1	9. Madhya Pradesh	12.8	106	38.1	22.5	31	18	1.9	3.2							
	-4.6	..	+0.1	+1.2	+3	..	-0.5	..		+0.7	..	+0.2	+0.7	-1	..	+0.4	..							
3. Orissa	32.1	123	35.5	25.4	69	60	2.4	3.8	10. Bombay	10.9	140	37.3	24.3	55	37	2.0	2.4							
	+6.1	..	-0.5	+0.5	+1	..	-0.2	..		+3.1	..	+0.6	+1.2	+1	..	+0.3	..							
4. Bihar	22.0	161	38.0	22.9	44	28	1.7	2.2	11. Andhra Pradesh .	25.5	130	37.5	25.6	62	46	2.9	3.3							
	+8.3	..	+0.5	+0.7	+3	..	+0.1	..		+5.9	..	-0.2	+0.1	+1	..	0	..							
5. Uttar Pradesh . .	2.9	37	37.8	21.3	37	21	1.3	1.9	12. Madras State . . .	51.5	131	35.1	25.7	73	55	4.4	4.5							
	-5.0	..	+0.5	+0.7	+1	..	0	..		+12.2	..	-0.5	+0.5	0	..	+1.2	..							
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	0	0	36.9	20.1	45	28	1.7	2.4	13. Mysore	26.4	75	35.8	23.5	66	37	3.2	4.8							
	-10.2	..	+0.7	+0.4	+6	..	+0.1	..		-8.8	..	0	+0.6	+2	..	+0.8	..							
7. Jammu and Kashmir	20.4	17	16.9	4.2	54	37	3.2	4.8	14. Kerala	86.1	78	32.9	25.7	76	71	4.8	5.6							
	-96.5	..	+0.8	+1.1	-13	..	-0.9	..		-24.6	..	+0.7	+0.1	-1	..	+0.9	..							
Sub-division									Sub-division—contd.															
1. Bay Islands . . .	110.6	185	32.9	24.5	69	75	4.1	4.8	15. Madhya Pradesh (West).	10.7	188	38.1	22.1	29	16	1.8	3.0							
	+50.7	..	+1.2	+0.8	-4	..	+0.4	..		+5.0	..	-0.1	+0.5	-1	..	+0.5	..							
2. Assam (Including Manipur, Tripura).	152.5	76	31.2	21.2	75	66	4.0	3.9	16. Madhya Pradesh, (East).	15.5	76	38.1	22.9	35	22	2.1	3.3							
	-49.0	..	+1.3	+1.4	0	..	-0.5	..		-4.9	..	+0.6	+0.9	-1	..	+0.3	..							
3. Sub-Himalayan West Bengal.	92.8	104	33.7	22.4	66	44	2.6	1.3	17. Gujarat	2.7	450	39.6	24.3	50	22	1.7	1.2							
	+3.7	..	-0.4	+1.5	+6	..	+0.3	..		+2.1	..	+0.5	+1.9	+1	..	+0.5	..							
4. Gangetic West Bengal.	31.7	80	37.0	25.3	68	53	2.3	2.3	18. Saurashtra and Kutch.	0.2	22	36.8	23.4	65	45	1.7	1.5							
	-7.7	..	+0.2	+1.1	+2	..	-0.7	..		-0.7	..	+1.0	+1.1	-3	..	+0.1	..							
5. Orissa	32.1	123	35.5	25.4	69	60	2.4	3.8	19. Konkan	2.3	32	32.5	25.5	72	69	2.5	2.0							
	+6.1	..	-0.5	+0.5	+1	..	-0.2	..		-4.9	..	+1.0	+1.1	-2	..	-0.1	..							
6. Bihar Plateau . . .	26.6	137	38.1	23.1	41	26	1.7	2.5	20. Maharashtra (Including Marathwada)	25.7	195	39.0	23.3	45	24	1.9	3.9							
	+7.2	..	+0.5	+0.7	+1	..	0	..		+12.5	..	+0.5	+1.3	+3	..	+0.4	..							
7. Bihar Plains . . .	19.1	187	37.9	22.6	47	31	1.7	1.8	21. Vidarbha	14.1	116	40.3	24.7	36	19	2.1	3.2							
	+8.9	..	+0.6	+0.7	+6	..	+0.1	..		+1.9	..	-0.3	+0.5	+5	..	+0.5	..							
8. Uttar Pradesh (East).	3.8	55	38.8	22.1	35	20	1.0	1.6	22. Coastal Andhra Pradesh.	35.8	189	36.2	26.0	70	63	3.5	..							
	-3.1	..	+0.7	+0.9	-1	..	-0.2	..		+16.9	..	-0.3	+0.4	0	..	0	..							
9. Uttar Pradesh (West).	1.8	20	36.8	20.5	40	22	1.6	2.2	23. Telangana	11.1	45	38.5	24.4	50	24	2.0	2.9							
	-7.1	..	+0.3	+0.5	+3	..	+0.1	..		-13.7	..	+0.1	-0.1	-1	..	-0.2	..							
10. Punjab (India) (Including Delhi)	0	0	36.9	20.1	45	28	1.7	2.4	24. Rayalaseema	19.4	122	39.5	26.5	59	35	2.4	3.3							
	-10.2	..	+0.7	+0.4	+6	..	+0.1	..		+3.5	..	-0.6	-0.2	+6	..	+0.3	..							
11. Himachal Pradesh	15.7	—	31.9	14.1	59	29	2.0	2.9	25. Madras State	51.5	131	35.1	25.7	78	55	4.4	4.5							
	—	..	—	—	—	..	—	..		+12.2	..	-0.5	+0.5	0	..	+1.2	..							
12. Jammu and Kashmir	20.4	17	16.9	4.2	54	37	3.2	4.8	26. Coastal Mysore	4.3	19	32.9	26.3	75	67	4.4	4.3							
	-96.5	..	+0.8	+1.1	-13	..	-0.9	..		-18.7	..	+0.1	+0.8	+1	..	+0.5	..							
13. Rajasthan (West)	6.6	140	38.7	22.3	36	16	1.4	2.0	27. Interior Mysore (North).	36.9	132	38.0	23.7	57	83	2.6	4.9							
	+1.9	..	+1.6	+1.5	-3	..	-0.1	..		+8.9	..	+0.1	+0.3	+2	..	+0.9	..							
14. Rajasthan (East)	2.7	59	38.0	22.3	30	17	1.6	2.9	28. Interior Mysore (South).	26.8	55	34.6	22.3	71	80	3.4	4.8							
	-1.9	..	+0.7	+0.4	-1	..	+0.4	..		-21.7	..	-0.1	+0.9	+3	..	+0.8	..							
									29. Kerala	86.1	78	32.9	25.7	76	71	4.8	5.6							
										-24.6	..	+0.7	+0.1	-1	..	+0.9	..							
									30. Arabian Sea Islands.	48.5	111	33.3	26.6	79	77	4.5	5.6							
										+4.7	..	+1.4	+0.1	+7	..	+1.1	..							

NOTE.—The entries in the second line for each division and sub-division indicate departures from normal.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—APRIL, 1959 (CHAITRA 11—VAISAKHA 10, 1881 SAKA) 183

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed km. per hour			Weather phenomena—No. of days with																						
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall												
																														20 (a)	20 (b)	21	22	23	24	25	26	27	28	29	
Hydrometeorological Observatories— (Contd.)																																									
Ganga Catchment																																									
Mukhim	22.6	..	27.8	29	13.1	..	4.2	1	13.7	23.4	..	10.8	20	3	..	..	..	..	0	7	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Tehri	33.4	..	38.4	29,30	15.2	..	9.0	1	0.2	3.2	..	2.0	1	0	..	5.1	3.0	..	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Gandak Catchment																																									
Gorkha	..	..	..	..	..	..	..	..	33.3	91.6	..	29.5	30	4	..	..	..	..	0	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	30.6	..	33.6	13	17.4	..	10.7	1	48.0	63.9	..	39.6	19	4	..	..	..	..	0	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	31.8	..	35.4	13	19.1	..	13.1	2	23.4	33.3	..	14.8	30	4	..	..	..	..	0	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	19.7	..	25.4	27,28	..	..	..	..	6.3	22.3	..	8.1	1	4	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	25.7	..	29.5	28	12.7	..	5.2	3	7.9	26.5	..	10.2	1	4	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																																									
Dailekh	28.2	..	34.0	28	16.0	..	9.2	1	3.8	23.4	..	11.4	21	4	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																																									
Dandeldhura	23.4	..	28.8	28,30 (c)	14.5	..	5.8	4	4.0	19.5	..	6.9	1	3	..	..	..	..	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Butwal	36.3	..	40.6	12,25	22.9	..	16.2	1	1.3	14.0	..	12.7	1	1	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																																									
Katmandu†	0	4	
Kosi Catchment																																									
Chautara	28.5	..	31.8	14	17.0	..	11.1	1	61.4	88.8	..	61.0	30	3	0	4	
Okhaldunga*	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Barahshetra	33.5	..	37.3	12	21.5	..	17.0	2	40.1	100.7	..	42.0	29	4	..	12.2	7.1	..	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Angbung	28.6	..	32.2	14	16.2	..	12.1	21	5.8	144.4	..	31.0	1	9	0	10	
Taplejung	23.3	..	26.3	14	13.0	..	8.5	2	40.2	108.2	..	26.8	20	7	0	11	
Taplethok	28.4	..	30.8	29	14.9	..	11.2	3	34.8	67.0	..	35.4	18	3	0	18	
Wallungchung Gola	13.5	..	17.5	27	3.9	..	—1.8	2	22.4	60.6	..	14.2	30	8	0	8	
Bhojpur	23.9	..	27.1	15	15.7	..	10.4	2	35.6	60.7	..	27.2	23	5	1	8	
Chainpur	28.1	..	31.4	10	17.1	..	13.3	1	30.6	88.6	..	29.4	30	6	1	8	
Tista Catchment																																									
Gangtok	21.6 (f)	..	24.6	9	12.3 (h)	..	5.6	2	72.4	242.9	..	42.3	14	12	..	5.0	4.1	..	3	17	0	5	16	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Geyzing	25.5	12.9	20.5	119.3	..	28.7	21	7	0	13	

(c) Mean of 28 days.

(h) Mean of 23 days.

* Data not available.

† Data included under "Hill stations".

(f) Mean of 25 days.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Okta)		Wind speed (km. p. h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure normal	Mean wind speed in km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Gangetic West Bengal—(Contd.) Dum Dum—(Contd.)	0830	6	1008.5	1007.8	..	29.9	26.1	24.3	30.7	73	..	2.7	..	7.3	0	0	30	0	0	0	3	11	12	3	1	0	0
	1130	"	1007.7	1007.0	..	34.6	26.3	22.5	27.4	51	..	2.3	..	8.8	0	0	29	0	1	0	2	9	12	4	1	1	0
	1730	"	1004.4	1003.7	..	33.0	25.6	22.0	26.6	55	..	3.0	..	7.6	0	0	27	0	0	1	1	13	8	1	3	3	0
	2330	"	1006.7	1006.0	..	27.4	25.2	24.1	30.2	84	..	2.7	..	10.0	0	1	28	1	0	1	1	12	14	0	0	1	0
Calcutta .	0830	6	1008.3	1007.6	-0.1	29.9	25.4	23.8	28.7	71	-2	2.2	-0.8	9.0	0	1	28	0	0	1	4	4	20	0	0	1	0
	1130	"	1007.6	1006.9	..	34.8	25.8	21.5	25.9	48	..	2.2	..	9.3	0	1	26	1	1	0	0	5	18	2	0	3	0
	1730	"	1004.4	1003.7	..	33.1	25.5	21.3	26.4	53	..	2.4	..	8.5	0	2	25	0	0	2	3	7	12	3	0	3	0
Barrackpore .	0530	7	1006.8	1005.9	..	25.6	24.2	23.4	29.0	88	..	3.6	..	6.2	0	0	22	0	0	2	1	10	8	1	0	8	0
	0830	"	1008.6	1007.9	..	30.1	25.5	23.2	28.9	68	..	2.5	..	11.7	0	6	24	0	0	2	1	8	13	5	1	0	0
	1130	"	1007.8	1007.1	..	35.2	25.3	20.2	24.1	44	..	2.6	..	12.4	0	3	25	0	0	0	1	9	8	7	3	2	0
	1730	"	1004.3	1003.6	..	33.3	24.6	19.9	23.7	48	..	2.6	..	10.0	0	1	25	1	0	0	3	8	10	3	1	4	0
Sagar Island .	0830	3	1008.5	1008.2	-0.1	29.3	26.8	25.9	32.7	82	+8	4.3	-0.1	26.5	0	22	8	1	0	1	0	6	14	7	1	0	0
	1730	"	1005.0	1004.7	..	29.3	27.0	26.0	33.6	82	..	3.7	..	29.7	0	26	4	0	0	0	2	13	15	0	0	0	0
Sandheads .	0530	10	1007.1	1006.1	..	27.8	26.1	25.4	32.5	87	..	4.1	..	20.4	0	11	19	1	0	0	0	5	21	3	0	0	0
	0830	"	1009.2	1008.2	-0.2	28.7	26.4	25.2	32.6	81	+3	3.2	+0.1	19.0	0	10	20	1	0	0	0	1	21	6	1	0	0
	1130	"	1008.5	1007.4	..	29.0	26.5	25.4	32.6	81	..	2.1	..	18.4	0	8	20	0	0	0	0	1	25	1	1	2	0
	1730	"	1005.5	1004.4	..	28.9	26.7	25.8	33.2	83	..	3.4	..	21.4	0	16	13	0	0	0	1	9	19	0	0	1	0
	2330	"	1007.4	1006.3	..	28.2	26.4	25.8	33.0	86	..	1.1	..	21.9	0	16	14	0	0	0	0	4	26	0	0	0	0
Contai .	0830	11	1008.7	1007.5	..	30.3	26.3	24.5	30.9	72	..	3.3	..	6.2	0	0	25	0	0	0	0	7	17	1	0	5	0
	1730	"	1035.1	1003.9	..	29.7	26.3	24.6	31.4	76	..	3.3	..	9.6	0	0	30	0	0	0	1	18	11	0	0	0	0
Midnapore .	0830	45	1008.4	1003.4	+0.3	31.6	24.5	20.5	25.2	56	-8	2.2	+0.1	4.8	0	0	22	4	0	0	1	6	10	1	0	8	0
	1730	"	1003.9	999.0	..	35.6	24.3	17.6	21.1	39	..	2.8	..	4.5	0	0	24	0	6	0	2	10	4	0	2	6	0
Purulia .	0830	255	1008.4	980.4	..	30.7	20.5	13.0	15.8	38	..	1.7	..	3.0	0	3	27	6	0	1	1	4	5	7	3	3	0
	1730	"	1003.2	976.1	..	35.8	21.1	10.2	13.1	24	..	3.0	..	3.6	0	7	23	0	1	2	1	1	1	4	13	7	0
Burdwan .	0830	32	1009.4	1005.8	+1.4	30.0	26.1	24.3	30.7	74	+6	1.0	-1.9	0.9	0	0	9	0	0	1	0	4	4	0	0	21	0
	1730	"	1004.5	1000.9	..	36.1	33.8	31.8	47.0	85	..	1.6	..	2.3	0	0	16	3	0	0	5	4	3	0	1	14	0
Krishnagar .	0830	15	1008.7	1007.0	+0.3	30.7	25.4	23.1	28.1	65	0	1.3	-1.5	3.9	0	0	27	1	0	1	1	20	0	4	0	3	0
	1730	"	1004.1	1002.4	..	35.3	24.5	18.6	21.9	42	..	1.7	..	3.7	0	0	28	0	0	0	1	25	6	2	0	2	0
Asansol .	0230	126	1005.4	991.6	..	25.5	22.6	20.1	24.2	70	..	1.2	..	3.3	0	0	15	0	1	0	5	3	2	3	4	15	0
	0530	"	1006.3	992.1	..	25.6	22.2	20.2	24.1	74	..	2.1	..	2.5	0	0	14	1	1	0	4	0	0	3	5	16	0
	0830	"	1008.1	994.1	+0.5	31.0	24.5	20.8	25.4	56	-8	2.2	0	5.8	0	0	29	2	2	3	3	1	6	6	6	6	0
	1130	"	1007.0	993.2	..	36.8	25.8	19.3	24.1	41	..	2.1	..	7.9	0	1	28	5	2	2	3	1	3	8	5	1	0
	1730	"	1003.0	989.4	..	35.9	25.4	19.4	23.0	36	..	2.9	..	4.6	0	0	23	3	1	4	3	0	0	5	7	7	0
Suri .	2330	"	1006.2	992.5	..	29.0	23.5	19.9	24.5	61	..	1.5	..	5.8	0	0	20	0	1	2	2	8	1	3	3	10	0
	0830	77	1008.7	1000.1	..	30.3	25.1	18.6	22.3	5	..	3.2	..	9.3	0	1	29	0	3	5	2	6	9	5	0	0	0
	1730	"	1003.9	995.4	..	36.9	22.3	11.6	15.0	2	..	2.7	..	9.9	0	2	26	3	3	2	1	4	4	6	5	2	0
Berhampore .	0830	19	1007.9	1003.7	-0.4	28.5	24.1	21.9	26.3	67	-3	2.6	-0.6	4.8	0	0	22	0	1	8	1	6	4	0	0	8	0
	1730	"	1003.5	1001.4	..	35.6	23.6	16.3	19.3	35	..	1.5	..	2.8	0	0	15	2	1	1	0	5	2	3	1	15	0
Orissa Baripada	0830	54	1009.2	1003.1	..	29.1	24.2	21.7	26.2	65	..	2.5	..	1.8	0	0	15	2	1	0	1	3	9	0	0	14	0
	1730	"	1004.8	998.8	..	31.9	25.0	20.5	24.4	49	..	2.9	..	3.4	0	0	22	0	0	1	7	6	4	0	1	8	0
Balasore .	0830	20	1008.4	1006.1	..	30.3	25.4	23.1	28.4	67	-2	2.9	+0.3	19.6	0	2	27	0	2	1	1	11	13	1	0	1	0
	1730	"	1004.8	1002.6	..	31.1	26.3	24.3	30.2	68	..	3.5	..	12.0	0	7	21	0	0	0	9	17	1	0	1	2	0
Chandbali .	0830	6	1009.2	1008.5	+0.2	30.0	26.2	24.6	30.7	72	0	0.8	-2.4	7.1	0	1	26	0	0	0	4	4	11	3	1	2	0
	1730	"	1005.2	1004.5	..	30.5	26.4	24.3	31.1	69	..	2.2	..	10.4	0	1	29	0	0	0	19	8	2	0	1	0	0
Cuttack .	0830	27	1009.2	1006.2	+0.2	29.0	25.8	24.3	30.5	79	+6	2.8	-0.3	6.0	0	0	16	0	0	1	0	3	12	0	0	14	0
	1730	"	1004.9	1001.9	..	33.1	25.7	22.1	26.9	54	..	3.7	..	13.7	0	2	22	0	0	0	4	12	8	0	0	6	0
Bhubaneswar .	0230	46	1006.4	1001.2	..	26.6	25.1	21.4	30.5	83	..	4.1	..	21.3	0	14	16	0	1	0	2	0	25	2	0	0	0
	0530	"	1007.2	1002.0	..	26.2	24.7	21.1	29.8	83	..	5.6	..	15.4	0	8	20	0	2	0	1	1	21	3	0	2	0
	0830	"	1009.4	1004.1	..	29.6	25.5	23.5	29.3	70	..	3.7	..	14.9	0	8	20	1	0	0	1	2	22	2	0	2	0
	1130	"	1008.2	1003.1	..	35.2	25.4	20.7	24.4	44	..																

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS APRIL, 1959 (CHAITRA 11—VAISAKHA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity%	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed, (km.p.h.)			No. of observations										
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Orissa—(Contd.)																												
Gopalpur—(Contd.)	1730	17	1005.8	1003.9	..	27.8	26.2	25.4	32.5	87	..	3.9	..	25.1	0	21	9	0	0	0	1	17	12	0	0	0	0	0
	2330	..	1007.8	1005.9	..	26.5	25.4	25.1	31.6	91	..	1.5	..	22.2	0	18	11	0	0	0	0	12	15	0	2	1	0	0
Koraput	0830	913	1520.5	911.0	..	25.7	19.7	16.2	18.5	57	..	1.0	..	5.4	0	0	30	1	0	0	1	0	26	1	1	0	0	0
	1730	..	1501.1	908.1	..	30.0	18.9	11.1	13.7	35	..	2.7	..	7.9	0	0	30	3	5	1	5	2	5	0	9	0	0	0
Titilagarh	0830	211	1009.2	985.7	..	30.6	22.2	17.4	20.0	45	..	2.1	..	2.6	0	10	20	2	1	0	2	7	5	1	2	10	0	0
	1730	..	1003.2	980.7	..	38.2	22.4	12.5	14.1	26	..	1.9	..	2.6	0	5	25	8	7	0	2	4	2	0	1	6	0	0
Bolangir	0830	190	1008.7	987.7	..	31.6	23.7	19.9	22.9	51	..	2.2	..	5.2	0	0	30	6	3	2	2	7	8	0	2	0	0	0
	1730	..	1005.2	984.9	..	37.3	24.3	16.7	19.7	32	..	2.9	..	4.5	0	0	30	11	6	1	2	2	2	0	6	0	0	0
Angul	0830	139	1009.3	993.8	+0.8	29.1	23.3	20.3	21.0	60	-1	2.6	-0.2	3.5	0	0	22	1	3	2	6	4	2	3	1	8	0	0
	1730	..	1003.6	988.5	..	37.3	21.8	9.7	13.2	23	..	3.7	..	9.1	0	4	26	3	4	2	9	5	3	1	3	0	0	0
Keonjhar	0830	463	1009.0	955.4	..	29.1	21.8	18.0	20.8	54	..	2.3	..	3.5	0	0	24	4	5	1	2	2	3	1	6	6	0	0
	1730	..	1003.8	951.3	..	33.7	22.3	15.1	18.8	37	..	3.3	..	3.2	0	0	30	4	1	2	4	4	4	5	6	0	0	0
Sambalpur	0830	148	1008.8	992.5	+0.7	32.6	22.5	16.3	18.1	40	-8	1.9	0	2.6	0	0	18	1	1	2	1	4	6	2	1	12	0	0
	1730	..	1003.6	987.5	..	36.9	22.5	15.2	14.8	26	..	2.6	..	1.1	0	0	10	1	0	0	0	2	4	2	1	20	0	0
Jharnuguda	0230	230	1005.9	980.1	..	26.7	19.1	13.4	15.9	47	..	1.3	..	2.7	0	0	14	1	0	1	0	4	2	1	5	16	0	0
	0530	..	1006.9	981.1	..	24.9	18.7	14.2	15.5	53	..	2.1	..	1.4	0	0	15	5	3	1	2	3	0	0	1	15	0	0
	0830	..	1008.7	983.3	..	31.0	21.1	14.3	17.0	39	..	2.3	..	4.7	0	0	18	3	0	2	1	3	4	2	3	12	0	0
	1130	..	1007.2	982.3	..	36.7	22.0	11.4	14.4	25	..	2.2	..	9.7	0	2	27	6	1	1	1	6	7	4	3	1	0	0
	1730	..	1002.9	978.1	..	37.4	21.2	8.7	11.9	20	..	2.9	..	8.1	0	0	27	1	1	0	0	9	6	4	6	3	0	0
	2330	..	1005.2	980.7	..	29.2	19.5	12.2	14.8	36	..	1.3	..	6.3	0	0	24	3	2	5	4	3	3	1	3	6	0	0
Bihar Plateau—Jamshedpur	0830	129	1008.5	994.1	+0.3	29.9	21.8	16.7	19.5	47	+1	1.5	-0.3	5.0	0	0	27	0	0	1	0	0	0	6	16	4	3	0
	1730	..	1003.0	989.0	..	37.0	22.1	11.7	14.3	25	..	2.3	..	5.4	0	0	23	2	4	1	0	3	6	5	7	0	0	0
Jamshedpur (P.R.O.)	0530	145	1006.6	990.2	..	25.4	20.9	18.0	20.5	67	..	2.7	..	1.7	0	0	13	0	3	0	0	0	0	17	8	3	1	0
	0830	..	1008.4	992.5	..	31.0	22.3	16.5	19.8	45	..	2.4	..	4.7	0	0	29	0	1	0	0	0	0	0	0	0	0	0
	1130	..	1006.7	990.9	..	37.0	22.6	12.9	15.5	27	..	2.1	..	6.6	0	1	28	1	0	1	0	3	9	7	8	1	0	0
	1730	..	1003.2	987.4	..	36.9	22.1	11.1	14.5	24	..	3.4	..	5.8	0	0	25	6	4	1	1	0	5	2	6	5	0	0
	2330	..	1005.1	989.9	..	29.4	22.1	16.6	20.5	50	..	1.8	..	3.7	0	0	23	1	6	4	1	1	1	2	7	7	0	0
Chaibasa	0830	226	1018.4	983.4	+0.7	30.7	22.6	17.8	20.8	50	-3	2.0	+0.2	1.6	0	0	15	0	1	0	0	0	12	0	2	15	0	0
	1730	..	1002.8	978.5	..	36.6	22.5	13.7	16.6	27	..	3.3	..	1.7	0	0	12	0	5	0	0	0	4	0	3	18	0	0
Ranchi	0830	655	1007.4	936.7	+0.7	29.3	20.2	14.3	17.0	44	+8	1.4	-0.4	0.6	0	0	4	0	0	2	0	1	0	0	1	26	0	0
	1730	..	1003.8	934.0	..	32.1	19.1	9.6	12.6	28	..	2.5	..	0.6	0	0	5	0	0	1	1	0	2	0	1	25	0	0
Ranchi (C.W.O.)	0530	652	1006.9	935.0	..	22.5	15.5	9.7	12.5	48	..	2.5	..	2.4	0	0	15	2	0	1	0	4	6	2	0	15	0	0
	0830	..	1007.6	936.9	..	28.4	17.6	9.3	12.2	35	..	2.0	..	5.5	0	0	20	4	0	0	0	3	7	5	1	10	0	0
	1130	..	1006.3	936.8	..	33.4	18.3	5.3	10.0	21	..	2.1 (h)	..	8.5 (h)	0	0	25	3	1	2	0	5	4	7	3	5	0	0
Daltonganj	0830	221	1008.2	983.8	+0.6	31.6	20.3	12.2	14.6	32	-7	1.8	+0.5	2.0	0	0	17	3	1	4	0	0	1	6	2	13	0	0
	1730	..	1003.3	979.3	..	35.8	20.3	8.0	11.1	21	..	2.4	..	4.4	0	0	27	6	3	1	1	1	0	0	15	3	0	0
Hazaribagh	0830	611	1007.6	941.6	+0.6	30.1	18.9	11.1	13.7	34	+6	1.7	-0.1	6.3	0	0	26	1	0	0	0	2	9	5	9	4	0	0
	1730	..	1003.0	937.9	..	33.6	20.4	11.1	14.3	29	..	2.2	..	9.9	0	1	27	4	0	0	1	1	2	0	20	2	0	0
Dhanbad	0830	257	1007.8	979.4	..	31.4	21.9	16.1	18.7	43	..	1.9	..	3.5	0	0	26	1	0	1	3	5	3	11	2	4	0	0
	1730	..	1003.0	975.2	..	35.9	21.8	12.0	14.6	27	..	2.6	..	4.8	0	0	29	4	1	1	2	5	1	7	8	1	0	0
Dumka	0830	149	1008.6	992.0	+0.9	31.0	25.6	23.5	28.5	67	+20	1.0	-0.6	3.8	0	0	29	1	0	10	4	0	4	9	1	1	0	0
	1730	..	1003.0	987.0	..	36.2	27.5	23.6	29.5	50	..	1.8	..	4.7	0	0	26	2	0	3	3	1	4	10	3	4	0	0
Bihar Plains—Purnea	0830	38	1008.7	1004.5	+0.7	28.3	23.0	20.0	23.9	62	+2	1.5	-0.7	4.4	0	0	26	1	5	12	1	0	1	6	0	4	0	0
	1730	..	1003.8	999.6	..	32.4	23.7	19.1	22.3	47	..	1.1	..	1.5	0	0	12	0	2	4	0	0	0	0	0	0	0	0
Forbesganj	0830	[61	1008.5	1001.7	..	28.3	22.9	20.2	23.7	61	..	2.0	..	11.7	0	2	28	1	0	29	0	0	0	0	0	0	0	0
	1730	..	1003.5	996.8	..	32.7	22.7	16.8	19.1	38	..	2.3	..	10.0	0	1	28	1	0	9	0	3	0	16	0	1	0	0
Darbhanga	0830	49	1008.5	1002.9	+0.8	28.1	21.8	17.9	21.0	56	0	1.2	-0.2	3.0	0	0	30	0	4	14	5	1	1	4	1	0	0	0
	1730	..	1003.9	998.4	..	33.7	23.1	16.6	19.5	39	..	1.4	..	2.8	0	0	28	1	4	5	0	1	0	9</				

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—APRIL, 1959 (CHAITRA 11—VAISAKHA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, in km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Coastal Andhra Pradesh—contd. Gannavaram—Contd.	0830	24	1009.9	1007.2	..	29.5	25.7	24.1	30.0	73	..	4.1	..	10.2	0	0	30	0	1	2	10	11	5	0	1	0	0
	1130	"	1009.2	1006.6	..	34.3	25.7	21.6	25.8	48	..	3.1	..	12.3	0	4	25	1	0	0	4	17	3	4	0	1	0
	1730	"	1005.5	1002.9	..	34.6	24.9	19.9	23.2	44	..	2.7	..	15.1	0	3	26	0	0	2	10	17	0	0	0	1	0
	2330	"	1008.5	1005.8	..	27.8	25.0	23.8	29.5	79	..	1.8	..	7.5	0	0	28	0	0	3	3	20	2	0	0	2	0
Masulipatam	0530	3	1008.3	1008.0	..	26.1	25.2	24.8	31.3	92	..	3.7	..	1.5	0	0	10	0	0	0	0	7	0	1	2	20	0
	0830	"	1010.3	1010.0	+0.1	29.8	26.5	24.9	31.5	76	0	3.5	+0.1	7.9	0	0	30	0	0	1	4	18	4	2	1	0	0
	1130	"	1010.0	1009.7	..	32.3	27.1	24.9	31.5	65	..	3.0	..	13.9	0	0	30	0	0	0	11	15	1	3	0	0	0
	1730	"	1006.5	1006.1	..	30.1	26.4	24.8	31.3	73	..	2.3	..	13.6	0	2	28	0	0	0	7	22	1	0	0	0	0
Nidavolu	0830	12	1010.3	1008.9	..	29.3	26.0	24.5	30.7	76	..	5.9	..	4.1	0	0	24	1	1	1	5	4	10	2	0	6	0
	1730	"	1006.2	1004.8	..	32.9	25.7	23.4	28.8	55	..	4.6	..	9.3	0	0	30	2	0	1	5	17	3	1	1	0	0
Kakinada	0830	8	1010.5	1009.6	+0.4	31.5	27.5	25.9	33.4	72	-1	3.7	-0.4	9.9	0	0	30	0	0	0	4	0	26	0	0	0	0
	1730	"	1006.4	1005.5	..	32.7	27.9	25.8	33.2	69	..	2.7	..	10.7	0	0	30	0	0	0	24	0	6	0	0	0	0
Visakhapatnam	0230	3	1007.8	1007.5	..	27.2	26.2	25.8	33.2	91	..	2.4	..	2.7	0	0	12	0	0	0	0	0	5	3	1	20	0
	0530	"	1008.4	1008.0	..	26.4	25.5	25.2	32.1	93	..	3.8	..	1.5	0	0	10	0	0	1	0	0	5	3	1	20	0
	0830	"	1010.2	1009.8	+0.4	30.5	26.6	25.0	31.7	73	+1	2.4	-1.1	5.5	0	0	23	0	0	0	0	1	20	1	1	7	0
	1130	"	1009.5	1009.1	..	34.0	28.9	26.8	35.2	67	..	2.3	..	16.9	0	15	14	0	0	0	0	14	15	0	0	1	0
Calingapatam	1730	"	1006.8	1006.4	..	30.5	28.0	26.7	35.0	82	..	3.9	..	13.3	0	7	21	0	0	0	1	10	17	0	0	2	0
	2330	"	1009.0	1008.6	..	28.2	26.9	26.3	34.2	90	..	3.9	..	6.5	0	0	20	0	0	0	1	4	14	1	0	10	0
	0830	6	..	..	..	..	..	..	..	..	..	4.3	+1.7	6.4	0	0	30	15	0	0	0	0	0	1	14	0	0
	1730	"	..	..	..	..	..	..	..	..	..	4.7	..	11.1	0	0	30	1	0	0	0	14	14	0	1	0	0
Telangana Ramagundam	0830	156	1009.1	991.7	..	31.0	22.9	18.6	21.4	50	..	3.0	..	5.7	0	0	29	1	3	4	8	3	7	2	1	1	0
	1730	"	1003.4	986.5	..	39.3	22.9	12.0	14.6	21	..	3.1	..	5.4	0	1	27	9	3	1	9	1	4	1	0	2	0
Nizamabad	0830	381	1008.5	966.8	+0.1	31.2	21.0	14.2	16.2	38	-4	1.0	-0.9	2.0	0	0	18	0	1	1	1	1	5	8	1	12	0
	1730	"	1002.8	962.2	..	38.3	21.9	10.3	12.5	20	..	2.6	..	2.1	0	0	19	3	5	6	1	1	1	0	2	11	0
Mahbubnagar	0830	505	1008.6	953.5	..	29.7	21.4	17.2	19.6	49	..	2.4	..	7.9	0	0	30	3	1	6	2	2	10	1	5	0	0
	1730	"	1002.8	949.2	..	36.3	21.3	12.9	14.9	24	..	3.7	..	5.1	0	0	30	2	3	10	5	3	3	1	3	0	0
Hyderabad (Begumpet Aerodrome)	0230	545	1006.8	947.0	..	26.3	19.7	15.8	17.9	54	..	2.3	..	6.4	0	2	18	0	0	1	12	4	1	1	1	10	0
	0530	"	1007.8	947.6	..	24.4	19.5	16.6	18.9	63	..	2.4	..	5.8	0	2	17	3	1	2	5	2	2	2	2	11	0
	0830	"	1009.2	949.7	+0.9	28.5	20.4	15.8	17.9	48	-7	2.8	+0.7	10.5	0	1	27	0	1	1	7	4	5	6	4	2	0
	1130	"	1007.4	949.2	..	34.3	20.9	12.7	14.7	28	..	2.7	..	12.3	0	1	28	0	1	0	9	7	7	2	3	1	0
Hakimpet	1730	"	1003.2	945.4	..	35.7	20.4	10.2	12.4	22	..	4.0	..	11.1	0	0	29	1	2	6	15	3	1	1	0	1	0
	2330	"	1007.5	948.2	..	29.0	20.4	15.3	17.4	46	..	2.5	..	8.0	0	0	23	0	0	2	18	3	0	0	0	7	0
	0530	613	1007.7	940.2	..	24.3	19.9	17.5	20.0	67	..	2.7	..	6.6	0	1	27	2	1	2	11	3	4	4	1	2	0
	0830	"	1008.6	941.9	..	28.1	21.0	17.0	19.4	53	..	2.3	..	10.4	0	3	27	0	1	1	6	6	6	6	4	0	0
Hanamkonda	1130	"	1007.1	941.6	..	33.5	22.1	15.7	17.8	36	..	2.5	..	11.1	0	1	28	2	0	2	8	3	7	5	2	1	0
	1730	"	1003.5	938.6	..	34.9	22.6	15.8	17.9	34	..	3.7	..	10.4	0	1	29	3	2	4	15	1	2	2	1	0	0
Bhadrachallam	0830	269	1009.0	979.1	-0.3	28.3	23.5	21.0	25.6	65	+7	2.1	-0.5	6.7	0	0	29	1	0	0	13	12	1	1	1	1	0
	1730	"	1004.4	975.5	..	37.0	23.8	16.3	18.6	31	..	2.0	..	3.8	0	0	30	2	5	1	13	8	1	0	0	0	0
Khammameth	0830	111	1010.2	997.7	..	29.3	24.5	22.3	26.9	67	..	3.7	..	4.5	0	0	27	0	2	2	10	7	1	4	1	3	0
	1730	"	1004.3	992.2	..	37.6	23.7	15.6	17.7	29	..	3.5	..	5.8	0	0	30	0	4	3	6	11	2	3	1	0	0
Rayalaseema Aroyavaram	0830	112	1009.8	997.3	..	28.9	24.7	22.7	27.6	69	..	4.3	..	6.4	0	0	27	0	0	2	17	6	1	1	0	3	0
	1730	"	1004.5	992.3	..	37.6	23.8	15.8	17.9	29	..	3.3	..	5.2	0	0	24	1	1	10	2	7	1	2	0	6	0
Cuddapah	0830	701	1009.6	933.2	..	26.2	21.2	18.4	21.1	63	..	2.8	..	5.3	0	1	21	1	2	0	5	9	1	1	3	8	0
	1730	"	1003.6	929.3	..	32.8	20.3	12.4	14.4	30	..	4.2	..	10.0	0	1	28	3	9	3	9	2	0	1	2	1	0
Anantapur	0830	130	1009.7	995.2	+0.5	31.3	25.8	23.3	28.6	63	+8	1.9	-0.3	1.8	0	0	9	1	0	7	1	0	0	0	0	21	0
	1730	"	1004.2	990.1	..	37.6	27.2	22.4	27.1	43	..	2.3	..	8.1	0	0	24	0	0	24	0	0	0	0	0	6	0
Tuticorin	0530	350	1007.2	968.3	..	26.2	20.9	17.7	20.2	61	..	3.1	..	6.0	0	2	18	1	0	0	4	2	6	6	1	10	0
	0830	"	1008.9	970.3	..	29.4	22.9	18.7	21.6	53	..	2.7	..	9.4	0	0	27	1	2	1	1	2	8	10	2	3	0
	1130	"	1007.4	969.5	..	34.5	22.9	16.1	18.3	34	..	2.6	..	8.5	0	1	28	3	2	4	3	1	4	5	7	1	0
	1730	"	1002.5	965.1	..	37.3	22.1	11.8	13.8	22	..	3.8	..	11.1	0	3	23	5	7								

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrometeorological Observatories —contd.																											
Narbada Catchment																											
Punasa	0830	..	..	..	..	31.4	19.3	8.2	11.9	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	39.5	21.2	7.4	10.3	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagra Tawa	0830	..	..	..	..	31.4	18.0	6.2	9.8	22	..	1.6	..	7.0	0	0	25	1	4	2	1	4	7	5	1	5	0
	1730	..	..	..	..	37.8	19.8	4.0	7.7	14	..	2.0	..	6.2	0	0	26	1	4	2	2	2	6	7	2	4	0
Thikri	0830	..	..	..	..	19.5	14.5	10.2	13.0	56	..	3.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sabarmati Catchment																											
Jhadol	0830	..	..	..	..	27.1	23.3	21.7	26.1	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi	0830	..	..	..	..	30.7	20.9	14.6	16.8	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	37.8	21.9	11.1	13.4	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																											
Mukhim	0830	..	..	..	..	17.5	10.3	3.3	7.9	41	..	1.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.1	10.3	1.3	6.9	35	..	3.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tehri	0830	..	..	..	..	19.0	14.1	10.3	12.5	59	..	2.1	..	2.3	0	0	18	5	9	0	0	1	1	2	0	12	0
	1130	..	..	..	..	27.2	16.4	7.7	10.8	31	..	2.3	..	3.0	0	0	27	2	14	1	3	1	3	0	3	3	0
	1730	..	..	..	..	31.9	16.9	3.6	8.4	19	..	2.8	..	5.0	0	0	29	2	2	2	3	0	11	4	5	1	0
Gandak Catchment																											
Gorkha	*0830	..	..	..	..	23.3	17.3	13.6	15.4	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	*1730	..	..	..	..	26.0	17.4	11.4	13.6	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	0830	..	..	..	..	24.3	17.7	13.2	15.4	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	26.2	18.3	13.2	15.3	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	0830	..	..	..	..	24.3	18.0	13.9	16.0	52	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	27.1	17.5	10.7	13.0	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	0830	..	..	..	..	13.4	7.1	0.8	6.5	42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.7	8.7	3.2	7.8	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	16.6	10.4	4.9	8.7	47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.3	13.2	6.2	10.0	39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region),																											
Dailekh	0830	..	..	..	..	20.8	13.3	6.7	9.9	41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	†1730	..	..	..	..	25.7	14.5	5.6	9.1	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																											
Dandeldhura	0830	..	..	..	..	18.1	11.4	5.9	9.2	45	..	1.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.4	12.2	5.6	9.0	38	..	3.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	27.9	18.9	12.6	14.6	39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	35.0	21.4	12.2	14.4	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																											
Katmandu**	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																											
Chautara	0830	..	..	..	..	20.0	15.3	12.2	14.3	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	24.5	16.6	10.4	12.8	41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga††	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barahakhetra	0830	146	1008.9	992.4	..	26.0	20.4	16.8	19.5	59	..	1.7	..	7.3	0	0	29	2	0	1	1	2	8	8	7	1	0
	1130	..	1007.3	991.4	..	31.1	22.8	18.0	21.0	48	..	3.1	..	13.2	0	2	28	0	0	0	0	0	18	11	1	0	0
	1730	..	1003.7	987.5	..	31.1	22.4	17.2	20.1	45	..	3.4	..	7.8	0	1	28	1	2	5	5	2	8	4	2	1	0
Angbung	0830	..	..	..	..	20.5	17.0	14.8	16.8	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	*1730	..	..	..	..	23.9	19.2	17.3	19.9	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	18.9	14.1	10.6	13.0	61	..	2.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	21.4	15.0	10.7	12.9	53	..	3.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.2	14.3	10.9	13.3	60	..	5.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	18.2	14.1	11.4	13.1	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.0	16.1	12.7	14.7	59	..	..	..</											

**MONTHLY MEANS OF UPPER WINDS,
APRIL 1959 (CHAITRA 11—VAISAKHA 10, 1881 SAKA)**

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9·0 km. a.m.s.l. are given under Table IV and data above 9·0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0·15 km. a.g., 0·3, 0·6, 0·9, 1·5, 2·1, 3·0, 3·6, 4·5, 5·4, 6·0, 7·2, 9·0, 10·5, 12·0, 14·1, 16·2, 18·0, 21·0, 24·0, 27·0, 30·0, 33·0 and 36·0 km. a.m.s.l. Of these, the levels 1·5, 3·0, 5·4, 7·2, 9·0, 12·0, 14·1 and 16·2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No.	Station	Lat. N.	Long. E.	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)			
1	Agartala	23°53'	91°15'	17	28th November 1951	0530	1130	1730	2330
2	Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330	
3	Amausi	26°45'	80°53'	132	20th November 1950	0530	1730	2330	
4	Ambala	30°23'	76°46'	279	1st April 1941	0530	1730	2330	
5	Amritsar	31°38'	74°52'	243	21st June 1957	0530*	1730*		
6	Anantapur	14°41'	77°37'	364	12th February 1946	0530	1730	2330	
7	Asansol	23°41'	86°59'	135	29th May 1942	0530	1130	1730	2330
8	Baghdogra	26°38'	88°19'	140	7th June 1953	0530	1130	1730	2330
9	Bairagarh	23°17'	77°21'	532	26th February 1943	0530	1730	2330	
10	Bamrauli	25°27'	81°44'	103	28th February 1930	0530*	1130	1730*	2330
11	Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330	
12	Bareilly	28°22'	79°24'	180	12th January 1943	0530	1730		
13	Begumpet	17°27'	78°28'	543	1st September 1929	0530	1730	2330	
14	Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730		
15	Boubaneshwar	20°15'	85°50'	54	5th December 1942	0530	1130	1730	2330
16	Bhuj	23°15'	69°48'	90	14th September 1937	0530	1730	2330	
17	Bikaner	28°00'	73°18'	229	18th October 1946	0530	1730	2330	
18	Chikalhana	19°51'	75°24'	583	7th October 1951	0530	1730	2330	
19	Cochin†	09°56'	76°14'	3	16th March 1942	0530	1730	2330	
20	Darjeeling	27°03'	88°16'	2115	21st May 1956	(830)	1730		
21	Dehra Dun	30°19'	78°03'	692	1st October 1958	0530	1730		
22	Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730*	2330
23	Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330	
24	Gannavaram	16°32'	80°48'	34	8th April 1942	0530	1730	2330	
25	Gauhati	26°05'	91°43'	51	12th March 1955	0530*	1130	1730*	2330
26	Gaya	24°45'	84°57'	119	19th March 1937	0530	1130	1730	2330
27	Gopalpur	19°16'	84°53'	24	15th February 1946	0530	1730	2330	
28	Gorakhpur	26°45'	83°22'	83	5th January 1943	0530	1730		
29	Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330	
30	Imphal	24°51'	93°58'	805	8th March 1952	0530	1130	1730	2330
31	Jabalpur	23°10'	79°57'	402	30th July 1928	0530	1730	2330	
32	Jagdalpur	19°05'	82°02'	562	25th March 1948	0530	1730	2330	
33	Jaipur	26°49'	75°48'	404	6th June 1953	0530	1730		
34	Jamshedpur	22°49'	86°11'	147	23rd July 1942	0530	1730		
35	Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330	
36	Jodhpur	26°18'	73°01'	229	15th October 1934	0530*	1130	1730*	2330
37	Madras	13°00'	80°11'	29	8th April 1926	0530*	1130	1730*	2330
38	Mangalore	12°52'	74°51'	40	4th June 1928	0530	1730	2330	
39	Minicoy	08°18'	73°00'	16	14th April 1941	0530	1730	2330	
40	Mohanbari	27°29'	95°01'	112	1st June 1948	0530	1130	1730	2330
41	Nagpur	21°06'	79°03'	316	23rd April 1943	0530*	1130	1730*	2330
42	Nanpara	27°50'	81°30'	142	23rd April 1957	0530	1730		
43	New Delhi	28°35'	77°12'	227	20th October 1936	0530*	1130	1730*	2330
44	Poona	18°32'	73°51'	593	5th January 1925	0530	1730	2330	
45	Port Blair	11°40'	92°43'	93	29th October 1945	0530*	1130	1730*	2330
46	Raipur	21°14'	81°39'	308	15th July 1944	0530	1730	2330	
47	Raxaul	26°59'	84°51'	83	28th October 1957	(530	1730		
48	Santa Cruz	19°07'	72°51'	14	14th May 1933	0530*	1130	1730*	2330
49	Tezpur	26°37'	92°47'	79	12th August 1932	0530	1130	1730	2330
50	Tiruchirapalli	10°46'	78°43'	96	22nd June 1936	0530	1730	2330	
51	Trivandrum	08°29'	76°57'	73	8th December 1928	0530*	1130	1730*	2330
52	Udaipur	24°35'	73°42'	587	24th June 1947	0530	1730	2330	
53	Vengurla	15°52'	73°38'	8	22nd November 1941	0530	1730	2330	
54	Veraval	20°54'	70°22'	17	13th October 1941	0530*	1130	1730*	2330
55	Visakhapatnam	17°43'	83°14'	10	24th September 1928	0530	1730	2330	

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	AGARTALA																AHMEDABAD											
	0530				1130				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.2	1.7	143	30	3.4	2.4	176	30	3.2	2.5	169	30	3.0	2.3	162	30	2.7	1.5	320	30	2.7	1.3	277				
0.15 a.g. . .	27	5.3	3.0	151	30	4.7	3.3	181	29	6.4	4.8	172	30	7.0	5.1	167	30	9.1	5.8	328	30	3.9	2.3	281				
0.3 a.m.s.l. .	27	6.2	4.7	203	30	4.8	3.8	181	29	6.7	5.3	180	30	7.7	6.3	186	30	10.0	6.3	325	30	4.8	2.6	273				
0.6 " . . .	27	7.0	4.8	201	30	5.1	3.9	190	29	6.8	5.3	192	30	8.0	6.4	201	30	9.1	5.8	330	30	4.1	2.8	272				
0.9 " . . .	25	6.9	4.8	226	30	5.9	4.2	210	29	6.5	4.9	209	28	6.9	5.1	217	30	6.5	3.7	327	30	4.5	3.2	275				
1.5 " . . .	24	7.7	5.6	278	23	6.9	5.6	252	28	6.0	4.9	261	27	6.3	4.9	255	29	5.3	2.6	295	30	5.5	4.4	277				
2.1 " . . .	21	7.9	2.2	303	14	7.9	6.2	270	28	7.7	6.3	278	27	7.5	6.6	276	29	5.6	2.9	275	30	5.5	4.1	270				
3.0 " . . .	19	8.2	6.5	287	7	10.1	8.2	280	26	9.8	9.4	280	24	9.2	8.6	283	28	7.9	5.7	244	30	7.2	5.3	258				
3.6 " . . .	14	8.1	7.5	280					25	11.0	10.2	280	11	9.3	8.8	295	9	8.8	6.3	255	30	8.8	6.3	250				
4.5 " . . .	12	10.1	9.5	257					17	11.6	11.1	289	5	8.5	7.7	275	2	7.7	6.0	260	29	9.6	6.4	250				
5.4 " . . .	7	9.9	8.7	252					9	12.7	11.5	285	5	9.3	8.2	267					28	9.7	6.6	264				
6.0 " . . .	4	12.9	11.3	237					7	14.6	11.9	287	4	9.0	8.4	288					27	10.9	7.5	261				
7.2 " . . .	1	13.4	13.4	280					4	19.0	17.9	265	1	11.3	11.3	295					16	13.7	10.0	269				
9.0 " . . .																					8	19.5	17.9	257				

Station	AHMEDABAD								AMAUSI								AMBALA											
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.2	1.1	273	30	1.2	1.0	280	30	3.8	3.5	312	30	2.0	1.4	287	30	2.2	1.2	327	30	2.5	1.6	296				
0.15 a.g. . .	29	7.2	4.4	232	30	6.5	4.6	310	30	6.7	5.9	310	30	8.7	7.4	305	30	6.9	4.2	343	30	5.0	3.3	299				
0.3 a.m.s.l. .	29	7.6	4.5	279	30	7.2	5.6	320	30	6.8	6.1	307	30	9.0	8.0	305	30	3.1	1.5	344	30	3.2	2.0	295				
0.6 " . . .	29	7.4	4.9	281	30	8.0	6.5	316	30	7.0	6.5	301	30	8.7	7.9	304	30	6.8	4.6	330	30	5.6	3.5	303				
0.9 " . . .	29	6.1	4.6	287	30	8.3	7.5	305	29	7.2	6.6	299	30	8.5	7.9	303	30	6.5	5.0	321	30	5.9	3.8	305				
1.5 " . . .	29	4.8	3.7	287	29	9.1	8.2	300	29	7.9	7.4	293	27	8.1	7.7	300	30	6.4	5.3	315	30	6.0	4.2	307				
2.1 " . . .	29	4.4	2.7	278	24	10.2	9.3	300	23	8.2	7.6	286	20	7.1	6.4	287	30	6.8	5.6	304	30	6.4	4.7	303				
3.0 " . . .	28	7.0	4.2	239	16	10.6	8.2	285	23	8.4	7.8	290	10	7.2	6.0	271	29	8.4	6.8	285	30	7.5	6.0	298				
3.6 " . . .	3	8.2	3.8	277	11	10.8	6.0	285	21	10.0	9.3	290	4	5.7	5.3	290	12	9.2	6.6	265	30	9.0	7.6	291				
4.5 " . . .					4	7.2	6.6	319	19	13.6	12.6	287					7	11.1	7.4	242	28	10.1	8.2	286				
5.4 " . . .					1	6.7	6.7	345	14	13.2	11.3	285					3	12.5	12.0	275	26	11.5	10.0	281				
6.0 " . . .									9	14.6	12.5	287					1	18.5	18.5	300	26	12.6	11.0	277				
7.2 " . . .									6	17.7	15.0	280									18	18.0	15.2	281				
9.0 " . . .									3	17.0	7.7	275									10	21.1	17.6	285				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	AMBALA				AMRITSAR								ANANTAPUR															
	2330				0530*				1730*				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.4	1.7	340	30	1.7	1.0	357	30	1.7	1.2	276	30	3.0	2.2	257	30	3.1	2.6	074	30	4.9	4.0	117				
0.15 a.g. . .	30	9.0	6.6	338	27	2.1	1.5	346	29	1.7	1.3	276	30	6.0	3.9	248	30	4.7	3.8	080	29	9.0	7.8	117				
0.3 a.m.s.l. .	30	3.8	2.6	336	27	1.8	1.4	342	29	1.6	1.2	280																
0.6 " . . .	30	9.1	6.6	334	27	6.2	4.3	347	29	4.6	3.1	287	30	6.2	4.0	247	30	4.7	3.9	080	29	9.4	8.2	118				
0.9 " . . .	30	8.2	6.1	328	27	5.6	4.3	327	29	4.3	3.1	283	30	5.7	2.8	238	30	5.1	4.2	082	29	9.6	8.8	120				
1.5 " . . .	30	6.5	5.2	316	27	5.9	3.1	320	29	4.0	2.3	280	30	5.3	2.2	186	30	5.1	4.2	084	29	6.6	6.0	122				
2.1 " . . .	30	6.9	5.8	303	27	7.2	4.8	310	29	4.4	2.6	278	30	6.0	3.2	109	30	5.6	4.5	087	29	5.1	3.9	105				
3.0 " . . .	28	7.7	6.1	287	27	8.6	6.2	297	29	6.1	3.9	283	29	7.2	5.8	063	29	6.1	5.0	078	29	5.7	4.0	077				
3.6 " . . .	10	8.0	5.4	266	27	9.8	7.3	256	29	6.9	5.0	261	28	7.8	6.9	051	28	6.5	5.0	059	28	6.5	4.4	060				
4.5 " . . .	3	9.9	9.5	275	27	10.1	7.7	282	29	9.1	5.3	271	26	7.9	6.8	047	24	6.6	4.5	045	18	6.2	4.8	038				
5.4 " . . .	3	13.0	9.9	257	27	10.5	8.7	271	28	10.5	9.3	277	21	6.6	4.0	068	21	7.1	2.1	005	7	6.1	4.7	025				
6.0 " . . .	1	16.0	16.0	275	26	12.8	10.7	270	27	12.0	5.5	271	18	5.6	1.2	087	19	6.6	0.4	296	5	6.0	4.5	079				
7.2 " . . .					26	13.8	11.7	270	27	14.6	12.4	270	13	6.9	2.3	159	15	8.1	2.6	252								
9.0 " . . .					22	20.1	16.8	265	23	20.3	17.5	558	2	11.1	10.4	220	7	10.8	5.5	221								

Station	ASANSOL												BAGHDogra															
	0530				1130				1730				2330				0530			1130								
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.8	0.2	204	30	1.9	1.2	286	30	1.3	0.6	311	30	2.0	0.9	184	30	2.6	2.0	067	30	3.7	3.3	093				
0.15 a.g. . .	30	3.7	1.9	252	30	4.2	2.6	308	30	3.5	1.8	306	30	6.2	1.6	213	28	5.8	5.4	075	29	4.2	3.8	096				
0.3 a.m.s.l. .	30	3.8	2.2	253	30	4.2	2.8	294	30	3.8	1.8	306	30	6.6	1.7	220	28	5.9	5.5	078	29	4.4	4.0	094				
0.6 " . . .	30	5.3	3.5	264	30	4.2	2.9	292	30	3.0	2.9	299	30	7.2	1.9	255	28	6.7	6.1	078	29	4.3	3.5	097				
0.9 " . . .	30	5.7	3.8	287	29	4.6	3.9	292	30	4.7	3.5	293	30	6.6	3.0	298	27	5.8	4.9	076	25	4.1	3.1	098				
1.5 " . . .	30	7.2	5.7	293	29	6.3	5.4	294	30	5.3	4.5	290	30	6.3	4.9	292	26	3.5	0.8	340	16	3.9	0.3	056				
2.1 " . . .	28	8.2	6.5	274	22	6.4	5.8	294	29	5.8	5.2	288	27	6.8	6.1	291	23	5.7	4.4	279	13	5.7	3.3	287				
3.0 " . . .	20	9.3	8.5	289	14	7.5	7.1	287	26	9.1	8.4	290	22	9.7	8.9	287	17	9.3	8.0	277	8	4.8	4.0	294				
3.6 " . . .	13	8.0	7.6	277					25	10.7	9.4	289	17	11.3	10.6	285	15	11.1	10.4	282								
4.5 " . . .	5	7.7	6.9	263					21	11.1	10.6	286	11	11.1	10.4	282	9	11.4	8.2	282								
5.4 " . . .	2	7.5	7.1	271					18	7.7	7.4	286	8	11.7	10.7	267	5	10.3	3.2	298								
6.0 " . . .									7	15.1	14.3	293	2	9.5	9.4	265	3	13.4	1.3	020								
7.2 " . . .									4	15.8	14.7	282					1	18.0	18.0	080								
9.0 " . . .									2	21.1	21.1	252																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	BAGHDODGRA								BAIRAGARH												BAMRAULI							
	1730				2330				0.30				1730				2330				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.5	0.3	135	30	2.3	1.6	035	30	2.3	1.3	352	30	3.4	2.5	292	30	2.2	0.7	349	30	0.7	0.3	260				
0.15 a.g. . .	30	3.5	0.8	155	28	4.6	3.9	070	30	6.7	3.0	353	30	5.1	3.8	294	30	7.1	3.2	337	28	6.9	4.2	287				
0.3 a. m. s. l. . .	29	3.4	1.1	217	28	4.7	4.0	071													28	7.0	4.2	287				
0.6 " . . .	29	4.0	1.5	220	28	4.2	3.1	086	30	6.3	2.9	351	30	4.6	3.4	290	30	6.6	2.7	338	28	7.5	5.5	302				
0.9 " . . .	29	4.0	2.1	238	27	3.7	1.2	091	30	6.8	3.1	348	30	5.3	4.0	294	30	7.2	3.6	338	28	7.5	6.0	309				
1.5 " . . .	28	5.2	4.0	258	25	4.6	3.5	262	30	5.7	3.2	325	29	5.3	4.4	292	30	5.7	3.2	322	28	9.3	8.6	297				
2.1 " . . .	25	7.2	4.6	271	22	6.3	6.0	268	29	5.4	3.5	299	29	4.8	4.0	295	30	5.3	3.0	306	28	10.2	9.9	299				
3.0 " . . .	16	9.5	8.9	280	15	10.3	9.5	276	29	5.8	4.4	275	29	5.1	4.0	295	29	4.7	2.9	266	28	10.7	10.2	292				
3.6 " . . .	15	10.6	10.1	280	6	9.9	9.1	292	11	5.2	3.3	279	28	5.4	4.4	285	3	3.1	1.1	267	28	10.9	9.9	290				
4.5 " . . .	7	13.1	9.0	280	1	8.2	8.2	080	4	6.0	1.8	279	27	7.2	5.7	276	1	6.2	6.2	200	28	11.2	10.0	283				
5.4 " . . .	2	15.7	15.7	293					1	4.1	4.1	215	24	9.0	6.9	276					28	12.2	10.2	270				
6.0 " . . .									1	4.6	4.6	210	21	9.7	6.9	275					28	13.5	12.4	274				
7.2 " . . .													14	12.6	8.0	275					27	20.5	17.3	269				
9.0 " . . .													4	19.2	16.9	264					23	26.1	21.7	256				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.3	2.5	301	29	3.4	3.3	305	30	1.7	1.0	273	30	3.3	1.6	196	30	6.5	2.4	092	30	3.9	2.5	132				
0.15 a.g. . .	30	5.7	4.6	298	29	7.7	7.1	296	29	8.0	5.0	320	29	5.7	3.5	208	30	5.3	3.9	084	30	7.0	5.6	138				
0.3 a. m. s. l. . .	30	5.9	4.6	297	29	7.8	6.2	300	29	8.3	5.6	317																
0.6 " . . .	30	6.2	5.0	294	29	8.0	6.6	299	29	8.6	6.5	315																
0.9 " . . .	30	6.4	5.3	294	29	7.7	6.6	299	30	8.1	6.8	309																
1.5 " . . .	30	7.5	6.5	295	29	7.5	6.5	295	26	7.5	7.0	293	29	5.6	2.2	202	30	5.3	3.9	083	30	7.2	5.6	135				
2.1 " . . .	30	9.3	8.4	293	29	7.7	7.3	291	21	8.6	7.8	282	28	5.1	3.4	077	29	5.6	4.3	070	30	5.6	3.8	098				
3.0 " . . .	27	11.1	10.0	291	29	8.7	8.0	286	13	10.2	9.4	277	27	7.5	6.1	057	25	5.9	5.1	060	23	6.4	5.3	055				
3.6 " . . .	26	12.4	11.5	286	29	10.2	9.4	283	2	13.4	13.4	294	22	8.4	7.5	052	23	5.7	4.5	070	18	6.7	6.1	049				
4.5 " . . .	25	11.6	10.9	282	29	11.2	9.6	286					12	6.5	4.6	081	15	6.0	3.5	064	9	6.0	5.6	058				
5.4 " . . .	22	12.7	11.8	283	29	12.4	11.2	284					5	5.6	0.6	322	10	7.7	2.7	050	4	4.5	4.1	073				
6.0 " . . .	18	14.6	13.6	281	29	12.4	11.1	283					4	5.0	3.7	233	10	8.3	1.5	096	3	4.0	3.0	065				
7.2 " . . .	13	18.6	16.9	278	29	16.4	13.6	270					1	7.7	7.7	230	9	8.3	2.5	158	1	4.1	4.1	115				
9.0 " . . .	3	14.4	7.6	275	25	26.0	23.0	255					1	6.2	6.2	270	6	8.4	2.9	234								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	BAREILLY								BEGUMPET												BHAGALPUR							
	0530				1730				0530				1730				2330				0530							
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.5	1.2	304	30	3.1	2.6	304	30	1.5	0.6	284	30	2.8	2.2	115	30	2.3	2.3	132	30	2.4	1.0	180				
0.15 a.g. . .	30	7.4	5.8	325	30	6.0	5.3	298	30	5.9	2.7	207	30	4.0	2.7	103	30	6.6	6.1	137	30	5.5	2.3	192				
0.3 a.m.s.l. .	30	6.9	5.2	321	30	5.8	5.0	299													30	5.6	2.2	225				
0.6 „ . . .	30	8.9	7.6	320	30	7.8	7.2	300	30	3.4	1.0	215	30	3.9	2.5	104	30	4.1	3.8	133	30	5.8	3.0	266				
0.9 „ . . .	30	8.6	7.9	312	30	7.8	7.4	299	30	7.5	4.3	207	30	4.1	2.8	097	30	7.7	7.2	142	30	6.6	4.6	284				
1.5 „ . . .	30	9.6	8.8	304	29	8.3	8.0	296	30	5.0	2.7	176	30	4.0	2.6	092	30	5.1	4.3	122	29	8.2	7.5	292				
2.1 „ . . .	25	8.7	7.8	303	29	9.0	8.3	296	30	4.1	1.9	088	29	3.9	2.7	088	30	3.9	2.0	082	28	9.1	8.6	294				
3.0 „ . . .	19	7.5	6.5	292	28	9.1	8.1	296	30	5.2	4.0	035	28	3.7	2.3	070	30	5.1	3.1	020	21	12.7	12.0	286				
3.6 „ . . .	5	5.6	4.6	311	26	9.9	8.5	295	28	5.5	4.0	030	26	4.4	2.8	055	15	6.3	4.8	001	14	11.4	10.6	290				
4.5 „ . . .					23	11.1	9.8	289	19	6.5	2.3	013	24	3.9	1.1	042	5	6.7	6.1	341	10	11.7	9.9	294				
5.4 „ . . .					17	11.3	9.5	296	7	6.8	1.9	178	19	5.1	2.0	340	1	4.6	4.6	345	5	11.8	10.2	286				
6.0 „ . . .					16	12.0	10.0	289	6	6.1	1.8	200	14	4.6	1.1	285					3	10.3	8.7	254				
7.2 „ . . .					8	13.9	9.1	297	3	10.8	9.5	253	6	6.6	2.0	250					2	13.4	11.9	264				
9.0 „ . . .					5	14.1	4.7	291					2	13.1	11.7	335												

Station	BHAGALPUR								BHUBANESHWAR																			
	1130				1730				0530				1130				1730				2330							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.4	0.9	308	30	2.6	1.7	310	30	4.5	4.1	223	30	3.6	2.8	212	30	6.6	6.3	182	30	6.3	5.9	210				
0.15 a.g. . .	30	4.0	1.5	306	30	4.9	3.4	302	19	5.8	4.9	213	30	5.0	4.1	201	30	8.2	7.8	190	29	8.5	8.2	206				
0.3 a.m.s.l. .	30	4.1	1.3	301	30	5.3	3.4	301	19	6.2	5.6	230	30	5.5	4.6	201	30	8.4	7.9	192	29	9.3	9.1	209				
0.6 „ . . .	30	4.1	1.2	283	30	5.7	4.2	296	17	6.3	5.8	234	30	5.1	3.7	220	30	6.4	5.8	191	27	9.7	9.3	208				
0.9 „ . . .	30	4.8	3.0	274	29	5.9	4.9	292	17	5.8	5.0	243	30	4.9	3.2	250	30	4.2	2.8	195	25	7.1	6.3	207				
1.5 „ . . .	25	6.6	5.7	282	28	7.3	6.9	276	17	4.2	2.2	287	28	4.3	2.5	290	29	3.5	2.0	301	25	3.3	1.9	271				
2.1 „ . . .	17	8.0	7.8	285	28	9.7	9.2	273	16	5.1	3.0	327	26	4.4	2.5	304	27	4.7	4.1	319	23	5.3	4.3	318				
3.0 „ . . .	7	10.2	9.9	289	23	11.5	10.8	279	14	6.0	3.7	327	23	5.6	4.4	320	23	7.2	5.9	318	22	6.7	5.3	320				
3.6 „ . . .					22	12.5	11.9	284	12	5.6	3.1	287					22	7.8	5.6	310	5	8.5	4.9	322				
4.5 „ . . .					16	12.6	12.1	285	7	6.3	4.3	295					19	6.3	4.4	302	1	7.2	7.2	195				
5.4 „ . . .					11	11.8	11.1	290	4	6.5	6.1	257					14	6.0	3.3	283								
6.0 „ . . .					9	13.8	13.1	280	3	6.7	6.4	257					14	6.9	4.5	264								
7.2 „ . . .					6	15.4	14.8	263	2	6.9	6.6	283					4	12.9	11.1	247								
9.0 „ . . .					3	17.0	16.6	271	1	19.6	19.6	265					2	18.8	18.8	245								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra, 11—Vaisakha 10, 1881 Saka)

Station	BHUIJ												BIKANER											
	0530				1730				2330				0530				1730				2330			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	1.4	1.2	262	30	4.2	3.2	265	30	3.0	2.2	272	30	0.6	0.1	255	30	1.6	1.2	280	30	1.9	0.8	251
0.15 a.g.	30	6.4	4.8	281	30	6.5	4.8	261	30	8.3	5.3	286	30	7.4	2.2	077	30	3.8	2.5	268	30	7.3	1.6	326
0.3 a.m.s.l.	30	7.2	5.5	288	30	6.7	4.5	266	30	7.1	5.5	288	30	5.3	2.0	095	30	3.3	2.3	276	30	5.9	0.8	321
0.6 "	30	7.9	6.5	298	30	6.2	4.7	275	30	7.3	5.3	291	30	6.5	1.6	026	30	4.4	3.1	272	29	7.2	2.6	316
0.9 "	30	6.6	4.6	309	30	5.6	4.5	275	30	6.1	3.8	292	30	5.3	2.0	307	30	4.6	3.3	267	29	6.3	2.9	295
1.5 "	30	5.7	2.7	270	29	4.7	3.1	276	29	5.0	1.4	269	30	5.5	3.9	286	29	4.6	3.5	270	28	4.5	3.5	262
2.1 "	30	5.3	2.4	248	29	4.9	2.7	269	29	5.7	2.2	250	30	6.8	4.8	288	28	5.0	4.2	275	27	5.5	4.4	263
3.0 "	30	6.1	3.3	254	29	6.1	4.3	243	29	5.7	2.5	255	28	8.2	5.7	304	27	5.7	4.6	278	25	6.6	4.9	275
3.6 "	7	7.0	4.7	227	29	7.7	5.6	244	5	2.9	1.3	260	18	8.6	6.2	306	27	6.2	4.8	276	20	7.8	6.1	281
4.5 "	7	6.0	3.9	228	29	9.8	6.9	247	1	6.2	6.2	055	5	9.0	6.9	265	24	8.1	6.5	275	5	8.6	7.3	301
5.4 "	1	2.1	2.1	200	29	10.3	7.1	250					3	10.1	9.9	273	19	11.1	9.5	277				
6.0 "	1	1.5	1.5	250	29	12.1	8.0	257									19	13.0	10.8	273				
7.2 "					4	23.4	21.1	222									14	14.0	11.9	271				
9.0 "																	5	16.4	12.7	286				

Station	CHIKALTHANA												COCHIN											
	0530				1730				2330				0530				1730				2330			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	2.2	0.8	327	30	2.2	0.3	357	30	3.2	2.3	326	30	0.6	0.5	074	30	4.2	3.1	293	30	1.0	0.4	076
0.15 a.g.	30	6.3	3.0	003	30	3.7	0.4	040	30	7.3	5.0	349	27	2.6	1.8	069	26	5.1	4.8	282	15	2.7	0.3	004
0.3 a.m.s.l.													27	2.7	1.0	339	26	5.6	8.1	281	15	2.7	1.3	308
0.6 "													27	3.3	1.9	044	26	5.0	4.5	285	15	3.3	2.6	295
0.9 "	30	8.1	4.1	009	30	3.0	0.6	004	30	7.8	5.7	353	27	2.7	1.9	310	26	3.5	2.6	293	14	3.9	3.0	292
1.5 "	30	7.1	4.2	028	30	3.4	0.6	005	29	7.1	5.0	005	26	3.0	0.8	337	25	3.5	2.0	064	13	3.4	0.4	280
2.1 "	30	4.3	2.4	049	29	3.7	0.8	055	28	5.0	3.0	030	26	5.1	2.6	048	21	5.6	4.6	066	10	4.5	2.0	093
3.0 "	29	4.7	1.1	114	23	3.4	1.5	032	27	4.5	2.4	108	22	8.8	7.7	059	17	8.3	7.3	067	5	6.7	6.6	073
3.6 "	23	5.8	1.5	175	18	4.6	2.4	044	18	5.1	2.2	161	15	7.9	7.1	059	8	9.6	9.4	080	4	6.4	4.4	064
4.5 "	7	7.0	1.6	279	12	6.2	2.2	335	7	7.0	3.3	156	7	5.6	3.7	081	2	8.5	8.3	095	2	5.1	4.9	106
5.4 "					9	9.2	1.2	324					1	3.6	3.6	260								
6.0 "					7	9.3	4.0	321																
7.2 "					4	11.2	6.8	279																
9.0 "					1	10.8	10.8	275																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	DARJEELING								DEHRA DUN								DUM DUM							
	0530				1730				0530				1730				0530*				1130			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.9	0.3	162	30	3.9	3.2	251	30	1.2	1.0	357	30	2.0	1.6	261	30	1.5	1.1	198	30	2.3	1.7	215
0.15 a. g. . .	12	2.4	1.1	225	5	3.7	3.7	230	30	2.2	1.7	036	30	4.7	3.7	277	30	6.0	3.7	266	30	4.0	2.9	222
0.3 a.m.s.l. . .																	30	6.8	5.7	228	30	4.3	3.2	227
0.6 " . . .																	30	7.2	6.1	237	30	4.9	3.9	239
0.9 " . . .									30	2.2	1.5	029	30	5.1	4.0	275	30	6.8	5.3	253	30	4.8	3.7	249
1.5 " . . .									30	3.2	2.3	315	30	5.2	4.7	277	30	5.5	4.1	270	27	5.6	4.8	278
2.1 " . . .									30	5.4	4.3	302	30	5.0	4.2	283	30	6.0	5.1	282	27	6.7	6.0	293
3.0 " . . .	12	5.8	5.5	279	5	4.3	4.2	270	30	6.9	5.8	294	30	4.9	3.1	298	30	8.4	7.5	291	23	9.9	9.0	295
3.6 " . . .	12	11.0	10.5	279	4	5.0	3.8	296	26	7.3	5.8	286	29	5.8	4.1	316	30	8.8	7.7	286	21	11.1	9.6	297
4.5 " . . .	7	10.4	8.1	286	2	8.7	2.1	238	20	8.5	6.3	270	27	7.2	5.5	309	30	8.7	7.8	282	17	12.1	9.3	305
5.4 " . . .	4	14.3	6.7	265	2	9.3	0.7	116	13	12.0	10.7	259	27	10.8	9.3	292	30	10.1	8.9	272	9	10.8	10.1	290
6.0 " . . .	3	13.4	3.0	248	1	11.8	11.8	040	9	13.7	13.0	256	26	13.2	11.5	283	30	10.9	9.8	267	8	11.1	10.9	283
7.2 " . . .	1	16.0	16.0	095	1	2.6	2.6	356					23	16.9	14.5	280	30	14.5	13.1	262	6	15.3	13.9	273
9.0 " . . .													14	19.7	13.1	277	27	19.6	18.2	256	2	18.8	17.7	235

Station	DUM DUM								GADAG								GANNAVARAM							
	1730*				2330				0530				1730				2330				0530			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.3	1.1	205	30	2.9	2.5	197	30	3.4	2.4	243	30	2.8	0.7	076	30	4.7	3.3	262	30	1.5	1.1	125
0.15 a. g. . .	30	5.4	3.9	201	30	8.4	7.2	205	30	6.7	3.7	255	30	4.5	1.6	074	30	8.7	5.7	260	30	4.3	3.5	176
0.3 a.m.s.l. . .	30	5.5	4.1	206	30	9.2	8.6	207													30	5.8	5.3	192
0.6 " . . .	30	5.1	3.5	220	30	8.4	7.6	212													28	6.8	6.4	195
0.9 " . . .	30	4.9	3.7	245	29	6.4	5.3	227	30	7.1	3.1	294	30	4.6	2.1	065	30	8.6	4.9	269	27	6.0	5.3	183
1.5 " . . .	30	4.6	3.6	277	26	6.2	3.9	284	30	5.8	2.0	253	30	4.6	2.3	058	30	4.9	1.3	073	27	4.4	1.9	133
2.1 " . . .	30	6.7	6.1	290	19	7.0	5.5	310	29	4.8	1.7	090	30	4.7	2.8	064	30	6.4	4.6	093	25	4.7	2.5	055
3.0 " . . .	30	8.7	7.7	299	13	9.3	8.2	312	29	5.3	3.4	080	24	5.8	4.3	075	28	7.1	6.2	087	22	6.6	4.5	049
3.6 " . . .	30	10.0	9.0	295	3	7.6	5.7	346	22	6.6	4.3	064	22	6.2	4.4	068	25	7.2	6.6	072	21	6.7	4.4	045
4.5 " . . .	30	9.6	8.6	286					8	5.9	3.0	050	15	5.9	4.0	063	16	7.2	2.8	045	17	5.6	1.9	006
5.4 " . . .	30	9.8	8.9	279					3	8.4	5.0	270	10	6.7	1.5	051	4	6.9	1.9	067	13	6.8	2.8	338
6.0 " . . .	29	10.7	9.8	273					1	8.2	8.2	265	8	7.5	1.3	297	1	12.9	12.9	295	10	7.4	3.4	283
7.2 " . . .	29	14.4	13.4	256									6	9.4	2.7	283					5	8.1	1.1	149
9.0 " . . .	29	20.2	19.1	256									3	11.3	4.7	196								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	GANNAVARAM								GAUHATI																							
	1730				2330				0530*				1130				1730*				2330											
Time in I.S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.9	3.5	156	30	2.8	2.2	158	30	1.1	0.9	074	30	2.9	1.3	020	30	1.3	0.6	018	30	1.8	0.6	109								
0.15 a.g.	30	4.8	4.2	159	30	6.5	6.3	171	30	3.9	1.9	081	30	3.2	2.3	025	30	3.9	1.6	012	30	3.4	1.4	104								
0.3 a.m.s.l.	30	4.6	4.1	160	30	7.1	6.3	167	30	3.8	2.2	080	30	2.8	1.9	025	30	4.0	1.2	355	30	3.7	0.7	091								
0.6 "	30	4.1	3.3	162	30	6.0	5.3	165	30	3.7	0.8	088	30	2.8	0.9	350	30	3.8	1.1	290	30	4.0	0.3	326								
0.9 "	30	3.0	1.9	156	30	4.6	3.4	150	30	3.8	1.3	294	30	3.9	2.1	266	30	4.4	2.5	255	29	4.3	2.1	250								
1.5 "	30	3.5	1.9	078	30	5.0	3.3	100	30	6.4	4.6	258	28	6.9	5.8	240	30	7.7	7.3	244	27	6.4	6.0	250								
2.1 "	30	5.8	4.2	056	30	5.5	3.7	072	30	8.4	7.5	259	26	9.0	7.6	248	30	10.3	9.8	248	22	7.3	6.5	256								
3.0 "	30	8.3	5.9	046	29	6.8	4.8	050	30	10.8	10.1	269	23	11.1	9.6	260	30	11.7	11.2	258	15	8.2	7.4	265								
3.5 "	30	7.2	4.5	045	20	6.8	3.3	050	30	12.1	11.3	271	17	11.1	9.0	265	30	13.1	12.4	265	3	6.5	4.1	248								
4.5 "	27	5.6	2.0	028	9	5.4	0.8	305	30	14.5	12.9	270	11	10.8	9.7	272	30	15.2	13.2	270	3	7.5	5.6	278								
5.4 "	24	7.2	1.0	266	4	8.5	6.7	253	30	16.5	14.4	270	9	17.7	15.9	273	30	17.3	15.8	270	2	16.0	15.7	274								
6.0 "	22	7.1	2.7	269	1	9.3	9.3	240	30	19.2	17.3	272	8	19.9	19.8	272	30	18.8	18.1	271	1	20.1	20.1	290								
7.2 "	15	8.9	4.6	273	1	9.8	9.8	225	30	20.4	19.7	268	3	20.4	20.3	251	29	23.9	23.1	269												
9.0 "	8	10.6	7.2	275					28	28.0	26.1	267					24	32.4	31.5	269												

Station	GAYA												GOPALPUR															
	0530				1130				1730				2330				0530				1730							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.1	1.2	220	30	4.1	3.3	285	30	4.9	3.9	312	30	1.7	0.3	209	30	3.3	3.2	207	30	6.9	6.7	198				
0.15 a.g.	30	7.0	4.9	237	30	6.0	4.8	282	30	7.7	6.1	305	30	6.0	1.7	326	30	7.2	7.0	213	30	9.7	9.5	198				
0.3 a.m.s.l.	30	7.1	4.5	249	30	6.0	5.1	280	30	7.8	6.4	307	30	6.3	2.4	323	30	6.2	5.9	226	30	9.6	9.2	197				
0.6 "	30	7.1	4.5	284	29	4.9	4.3	285	30	8.4	7.3	304	30	6.1	3.8	319	30	5.0	4.4	234	30	6.3	5.7	197				
0.9 "	30	7.2	5.6	301	27	5.3	4.6	289	30	8.0	7.4	301	30	6.5	5.3	308	30	4.5	3.9	235	30	4.2	3.0	186				
1.5 "	30	8.1	7.6	300	26	7.0	6.5	292	30	8.4	8.1	295	30	7.9	7.6	297	30	3.5	2.0	274	30	3.1	0.3	300				
2.1 "	30	10.2	9.7	296	23	8.7	8.4	290	29	8.5	8.1	289	26	8.7	8.1	287	30	4.8	2.5	335	30	4.4	3.2	336				
3.0 "	27	12.1	11.4	288	14	9.3	8.9	288	27	10.0	9.4	284	20	10.9	9.6	284	29	5.9	4.0	340	30	7.3	6.0	328				
3.6 "	21	11.0	9.2	282					24	10.6	9.9	280	7	9.9	9.4	287	19	6.7	4.5	330	29	7.7	6.3	325				
4.5 "	16	11.2	9.5	286					20	12.1	11.6	277	2	13.6	12.3	304	15	5.7	2.9	286	25	6.0	3.9	315				
5.4 "	12	12.3	11.2	283					15	14.8	14.2	285	1	10.3	10.3	260	12	7.1	4.5	261	22	5.7	2.9	286				
6.0 "	5	11.9	11.4	266					12	14.3	13.5	282	1	14.9	14.9	265	9	7.5	4.3	237	19	6.5	4.0	252				
7.2 "	3	14.9	13.6	252					9	15.4	14.0	274					4	5.8	2.3	275	14	7.5	4.8	237				
9.0 "	2	17.0	17.0	211					5	32.6	21.5	246					1	7.2	7.2	205	12	10.0	7.8	253				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	GOPALPUR				GO RAKHPUR				GWALIOR																			
	2330				0530				1730				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	6.8	6.0	204	30	2.3	0.8	288	30	2.7	2.3	281	30	0.9	0.5	254	30	2.7	2.0	321	30	1.1	0.6	283				
0.15 a.g. . .	30	9.7	8.3	211	30	6.9	2.7	302	30	5.7	5.1	284	30	6.3	1.4	3.6	30	5.0	4.4	327	30	5.9	3.0	338				
0.3 a.m.s.l. .	30	9.1	7.5	212	30	8.0	4.0	305	30	6.4	6.0	282	30	5.0	1.2	282	30	4.3	3.5	327	30	4.4	2.1	342				
0.6 " . . .	30	6.6	5.0	210	30	9.1	6.1	306	30	7.7	7.2	283	30	6.8	2.5	345	30	5.8	5.1	323	30	6.5	3.7	333				
0.9 " . . .	30	4.7	3.0	210	30	8.7	5.7	311	30	8.2	7.7	283	30	6.3	3.1	333	30	5.6	4.8	319	30	6.1	3.9	320				
1.5 " . . .	30	3.1	1.3	212	30	10.2	9.6	296	30	9.4	9.0	285	30	5.7	4.1	309	30	5.9	5.2	311	30	6.7	4.7	295				
2.1 " . . .	30	3.3	1.6	340	28	11.6	11.1	289	29	10.5	10.1	287	30	6.8	5.7	286	30	6.1	5.4	300	30	7.0	5.5	287				
3.0 " . . .	29	5.5	3.9	336	21	10.6	10.1	291	29	12.4	12.0	291	28	9.0	8.1	283	30	7.6	6.6	286	28	8.1	7.4	278				
3.6 " . . .	23	6.7	4.8	338	15	9.9	9.3	292	26	13.1	12.6	293	21	9.6	8.6	277	29	8.7	7.5	274	16	7.8	7.0	279				
4.5 " . . .	13	6.3	3.7	319	7	8.9	8.0	285	23	12.3	11.1	293	11	11.4	10.9	279	24	12.0	10.9	277	8	9.3	6.2	287				
5.4 " . . .	4	5.7	5.5	230	5	8.1	7.1	262	19	12.5	11.0	290	7	14.9	14.2	269	21	14.4	12.5	279	2	7.7	6.2	250				
6.0 " . . .	3	7.4	7.3	235	5	9.9	9.5	264	17	14.5	12.0	290	5	14.0	13.4	279	19	15.9	14.0	282	1	13.4	13.4	290				
7.2 " . . .					4	16.1	15.3	267	12	14.4	10.9	253	3	15.6	15.4	272	15	18.5	16.2	279								
9.0 " . . .					2	17.2	16.7	268	7	21.1	16.4	270					6	18.2	13.0	298								

Station	IMPHAL												JABALPUR															
	0530				1130				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.6	0.5	206	30	3.4	2.6	238	30	2.8	2.3	247	30	1.4	0.8	260	30	0.8	0.4	167	30	2.1	1.1	329				
0.15 a.g. . .	29	1.7	1.1	201	30	4.5	3.9	230	30	4.7	4.3	249	29	3.1	2.0	241	30	4.9	0.9	112	30	4.6	1.9	333				
0.3 a.m.s.l. .																	30	5.7	0.8	097	30	4.7	2.1	329				
0.6 " . . .																	30	6.6	1.6	009	30	4.9	2.8	318				
0.9 " . . .	29	1.5	0.9	196	30	4.4	3.7	229	30	4.3	3.9	248	29	2.6	1.4	241	30	5.4	2.6	331	30	4.4	2.8	319				
1.5 " . . .	29	5.0	4.4	266	30	5.4	4.9	258	30	7.0	6.6	262	29	5.3	4.6	264	30	5.4	4.0	303	30	4.0	3.0	308				
2.1 " . . .	28	8.0	7.6	268	27	8.2	7.3	268	29	8.9	8.6	255	27	7.2	6.6	258	30	7.2	6.4	295	30	5.5	4.7	295				
3.0 " . . .	24	10.5	9.8	272	13	6.0	4.8	280	26	8.1	7.4	257	17	7.7	6.8	252	29	7.9	7.0	285	28	6.8	6.0	292				
3.6 " . . .	18	9.5	8.9	267	8	6.5	4.6	261	23	10.0	8.4	264	15	8.2	7.6	256	25	9.0	7.5	283	26	8.2	6.7	287				
4.5 " . . .	9	8.6	8.1	259					11	9.3	8.7	272	9	6.6	5.6	257	19	8.2	6.5	280	20	8.2	6.0	286				
5.4 " . . .	7	12.1	11.7	265					6	10.9	9.8	262	4	7.5	6.6	276	17	9.1	6.2	273	18	9.2	6.0	277				
6.0 " . . .	5	13.4	12.8	263					4	10.7	9.8	282	3	8.7	8.1	270												
7.2 " . . .	2	16.0	16.0	268					1	20.1	20.1	260	1	6.7	6.7	315	7	11.4	8.0	251	17	12.5	7.2	275				
9.0 " . . .																	1	17.0	17.0	210	10	17.3	13.7	263				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9·0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	JABALPUR				JAGDALPUR												JAIPUR											
	2330				0530				1730				2330				0530				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	1·2	0·7	087	30	0·5	0·4	179	30	1·9	0·3	311	30	0·9	0·8	173	30	2·1	1·4	347	30	2·8	1·7	295				
0·15 a. g. .	30	6·0	3·3	039	30	5·9	4·7	220	29	4·4	0·3	307	30	6·1	4·3	204	30	6·2	2·0	089	30	5·1	3·0	289				
0·3 a.m.s.l.																												
0·6 „	30	6·4	3·8	033	30	3·3	2·6	215	29	3·1	0·4	307	30	4·1	3·1	198	30	6·9	2·4	346	30	5·5	3·3	284				
0·9 „	30	7·4	4·2	022	30	6·2	5·0	232	29	4·5	0·6	005	30	6·1	3·9	208	30	6·9	3·2	315	30	5·7	3·4	285				
1·5 „	30	5·8	3·3	350	30	3·4	2·0	095	29	3·1	1·3	335	30	4·3	1·5	282	30	6·6	4·7	292	30	5·9	4·3	293				
2·1 „	30	5·6	3·0	316	30	4·2	2·6	353	28	3·4	2·2	337	29	4·6	2·2	359	28	7·9	6·9	286	30	6·2	5·2	297				
3·0 „	30	6·2	4·7	281	28	5·1	3·0	354	26	4·6	3·1	357	29	4·9	3·1	016	25	8·6	7·1	287	29	7·1	5·6	285				
3·6 „	21	6·9	5·8	274	21	5·5	3·2	344	24	4·9	2·7	009	19	4·7	2·8	015	18	8·7	7·4	275	28	7·3	5·7	285				
4·5 „	5	8·0	7·5	280	9	4·3	0·7	318	16	4·5	2·1	347	5	6·3	4·9	334	4	8·1	6·6	280	26	11·4	7·9	281				
5·4 „					5	7·5	4·6	203	13	5·9	1·9	259	3	7·2	6·7	255	1	16·0	16·0	280	18	13·2	10·8	289				
6·0 „					2	11·1	10·3	317	11	8·0	3·9	231									14	14·6	10·8	282				
7·2 „									5	13·6	7·9	235									12	19·4	14·1	283				
9·0 „									2	13·1	7·4	307									2	31·1	31·1	275				

Station	JAMSHEDPUR												JHARSUGUDA															
	0530				1130				1730				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	1·1	0·6	250	30	2·1	1·5	269	30	2·2	1·4	318	30	1·7	0·7	056	30	2·7	1·5	241	30	2·4	0·5	202				
0·15 a. g. .	30	3·0	1·8	258	30	3·0	2·2	271	29	4·1	2·5	331	30	4·4	0·8	043	30	4·8	2·5	241	30	5·8	1·3	242				
0·3 a.m.s.l.	30	3·0	2·0	250	30	3·0	2·2	273	29	4·1	2·7	330	30	3·9	1·3	074	30	4·9	2·6	241	30	5·3	1·1	227				
0·6 „	30	4·6	2·8	263	30	3·9	2·8	283	30	4·2	3·1	324	30	5·7	1·4	318	30	4·7	2·5	262	30	6·1	1·6	260				
0·9 „	30	6·0	3·4	280	30	4·3	3·4	295	30	4·5	3·4	321	30	6·4	2·8	317	30	4·5	3·0	279	30	6·1	6·1	275				
1·5 „	30	6·2	4·4	301	30	6·2	4·9	294	30	4·7	3·4	308	29	6·0	3·5	231	30	4·6	3·8	061	30	5·0	2·8	306				
2·1 „	29	8·1	6·5	299	28	7·9	6·7	300	30	5·0	4·0	292	29	6·2	4·8	295	30	5·2	4·5	315	30	4·8	3·1	310				
3·0 „	22	9·4	8·7	291	18	7·9	6·3	292	28	7·4	6·7	291	25	7·1	6·0	303	29	5·7	5·3	317	28	6·5	4·7	302				
3·6 „	16	9·8	8·9	291					25	9·4	8·5	290	1	12·9	12·9	320	27	7·0	6·3	318	18	6·0	4·5	313				
4·5 „	7	9·5	7·6	287					20	9·8	9·2	291					15	7·7	7·2	314								
5·4 „	1	5·7	5·7	240					16	9·8	9·4	288					5	6·6	6·2	306								
6·0 „	1	12·4	12·4	245					14	10·6	10·0	282					2	7·5	7·5	307								
7·2 „									11	11·5	10·5	270																
9·0 „									1	12·5	11·7	279																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	JODHPUR																MADRAS							
	0530*				1130				1730*				2330				0530*				1130			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.5	0.4	003	30	2.1	1.1	244	29	3.5	2.3	245	30	2.6	1.2	293	30	1.7	1.5	190	30	3.0	2.1	159
0.15 a.g.	30	3.4	0.2	334	30	3.3	1.5	255	29	4.1	2.6	239	30	7.6	3.8	262	30	5.5	4.9	167	30	4.3	2.9	166
0.3 a.m.s.l.	30	3.3	0.6	340	30	2.8	1.4	268	29	3.8	2.4	250	30	6.3	3.3	260	30	5.6	5.2	169	30	4.4	3.0	173
0.6 "	30	6.1	1.7	305	30	3.4	1.5	244	29	5.1	3.0	250	30	7.6	4.1	266	30	5.7	5.7	190	30	4.6	3.2	184
0.9 "	30	5.8	2.8	273	30	4.0	1.7	265	29	5.0	2.8	259	30	7.1	3.9	263	30	5.5	2.5	188	30	3.9	2.5	192
1.5 "	30	5.0	3.4	270	30	4.6	2.4	269	29	5.3	3.9	246	30	5.9	3.5	259	30	4.3	3.0	143	28	4.5	3.0	116
2.1 "	29	5.2	3.8	267	30	5.3	3.0	255	27	5.3	3.5	250	28	5.6	4.2	252	30	5.8	4.2	086	26	6.7	5.8	083
3.0 "	29	6.5	4.7	267	28	5.9	3.5	257	27	6.2	4.1	255	24	5.8	3.1	254	30	7.6	6.2	065	25	8.6	7.9	058
3.5 "	29	7.8	5.8	261	27	6.8	4.3	256	27	7.4	4.9	266	2	6.9	3.2	063	30	7.7	5.8	066	25	8.6	6.8	063
4.5 "	29	9.6	6.8	265	27	9.4	6.5	262	27	9.9	7.3	258	1	10.3	10.3	265	30	6.9	4.4	072	19	7.2	4.3	081
5.4 "	29	12.0	9.7	258	27	11.9	9.0	260	27	11.8	8.8	258	1	17.0	17.0	280	30	7.0	4.1	092	16	7.7	4.3	088
6.0 "	29	13.9	11.4	254	24	13.7	10.8	261	27	13.1	8.6	252	1	16.0	16.0	275	30	7.3	2.8	101	16	7.9	3.8	093
7.2 "	27	16.7	13.4	257	12	15.7	14.1	274	27	15.4	12.1	245					30	7.8	2.0	147	13	5.7	1.9	141
9.0 "	21	22.4	18.2	250	1	30.8	30.8	235	23	23.8	19.6	247					28	8.5	2.2	186	7	6.7	2.0	215

Station	MADRAS								MANGALORE								MINICOY							
	1730*				2330				0530				1730				2330				0530			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	5.3	4.6	128	30	3.0	2.7	151	30	2.7	1.6	056	30	5.0	4.7	281	30	3.1	2.2	315	30	2.5	1.4	318
0.15 a.g.	30	7.6	6.8	130	30	6.8	6.3	158	30	3.4	1.6	003	30	6.0	5.8	288	30	3.8	3.0	315	30	4.2	2.4	320
0.3 a.m.s.l.	30	8.9	6.5	132	30	7.7	7.2	155	30	3.2	2.1	332	30	6.1	6.0	288	30	3.8	3.3	316	30	4.2	2.3	322
0.6 "	30	5.1	4.0	132	30	6.6	6.0	156	30	3.2	2.3	316	30	5.3	5.0	288	30	3.6	3.1	313	30	4.0	1.9	324
0.9 "	30	4.2	3.3	126	30	5.1	4.4	149	30	3.4	2.3	310	30	3.7	3.0	310	29	3.2	2.2	300	30	3.7	1.0	354
1.5 "	30	4.3	2.8	082	30	4.7	3.4	108	26	3.4	1.7	335	30	3.3	2.7	028	29	3.4	1.6	300	30	4.1	2.4	065
2.1 "	30	5.8	4.4	065	30	6.0	4.6	087	22	4.6	2.7	076	30	5.5	4.5	063	25	4.5	2.4	052	28	5.7	4.0	075
3.0 "	30	8.0	7.2	064	29	7.5	6.4	075	21	8.2	7.7	079	27	9.0	8.5	079	22	8.4	7.8	076	26	6.9	5.3	075
3.6 "	30	7.9	5.9	065	13	6.3	4.2	076	8	10.4	10.1	070	24	7.9	7.0	081	16	8.4	7.8	075	20	6.3	4.5	080
4.5 "	30	7.1	3.0	080									20	5.6	2.8	073	10	6.5	5.4	070	8	4.7	0.8	065
5.4 "	30	6.6	2.0	105									17	6.3	1.1	015	4	4.5	2.1	087				
6.0 "	30	6.5	1.1	150									16	6.4	0.9	309	2	3.6	3.4	280				
7.2 "	30	7.4	1.4	228									13	6.8	2.8	243								
9.0 "	28	8.0	2.5	210									4	9.5	8.7	243								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	MINICOY								MOHANBARI																			
	1730				2330				0530				1130				1730				2330							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.0	1.9	305	30	2.5	1.5	298	30	0.6	0.5	042	30	1.4	1.3	056	30	1.3	1.2	050	30	1.4	1.2	051				
0.15 a.g.	30	4.8	3.2	309	30	3.7	2.4	297	28	4.6	3.9	060	27	2.7	2.1	056	28	4.0	3.3	049	24	4.3	3.8	050				
0.3 a. m. s. l.	30	4.5	3.1	339	30	3.6	2.2	298	28	4.8	3.7	054	27	2.8	2.1	057	28	4.1	3.4	051								
0.6 "	30	4.5	2.8	315	30	3.4	1.9	301	28	4.6	3.4	065	26	2.3	1.5	067	28	3.5	2.7	065	24	4.3	3.8	052				
0.9 "	30	4.0	1.6	327	30	3.2	1.0	311	26	3.3	1.9	069	25	2.3	0.9	105	27	3.2	1.9	073	24	3.8	3.4	062				
1.5 "	30	3.7	1.5	052	30	3.8	2.2	068	23	3.0	1.1	218	21	3.6	3.0	226	25	4.1	3.4	243	23	3.3	2.7	081				
2.1 "	29	5.1	3.0	070	30	6.6	4.9	085	21	3.9	1.7	246	15	6.7	6.0	230	23	6.9	6.5	240	22	2.8	0.6	177				
3.0 "	24	7.8	5.0	075	28	7.8	6.4	077	16	6.2	4.3	273	5	3.6	0.6	182	17	9.1	6.9	242	20	5.3	3.0	250				
3.6 "	21	7.2	4.1	067	19	6.4	5.1	073	12	4.7	2.8	302					7	6.5	5.8	237	17	6.5	5.5	255				
4.5 "	20	6.2	2.7	060	11	3.4	1.1	062	9	7.4	2.9	295					1	7.7	7.7	245	8	5.1	3.1	259				
5.4 "	19	6.0	2.4	072	4	3.6	1.4	285	8	8.5	5.9	284									3	2.9	0.6	172				
6.0 "	15	6.0	2.3	050	4	3.2	2.0	220	6	9.5	9.2	280									1	13.9	13.9	255				
7.2 "		6.4	3.4	113					3	14.3	14.2	303																
9.0 "	3	5.5	3.9	091					1	19.6	19.6	270																

Station	NAGPUR								NANPARA																							
	0530*				1130				1730*				2330				0530				1730											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.6	0.8	325	30	2.6	0.1	038	29	1.9	0.6	271	30	2.5	0.5	018	30	1.6	0.8	295	30	3.1	2.5	289								
0.15 a.g.	30	7.1	2.7	018	30	3.5	0.3	065	29	5.1	1.2	333	30	5.5	1.4	052	30	6.5	4.2	325	30	6.6	5.8	295								
0.3 a. m. s. l.																	30	6.6	4.3	315	30	6.8	5.9	284								
0.6 "	30	6.9	2.6	015	30	3.8	1.0	079	29	4.1	0.8	325	30	5.5	1.2	042	30	8.3	6.6	312	30	7.8	7.2	291								
0.9 "	30	6.8	2.1	016	30	3.9	1.0	057	29	3.2	1.2	277	30	4.6	1.2	031	30	9.2	7.4	308	30	8.2	7.8	291								
1.5 "	30	5.9	2.4	006	30	4.0	0.7	018	29	3.2	1.1	293	29	3.7	1.1	009	29	9.7	9.2	307	30	9.3	8.8	290								
2.1 "	30	4.7	2.2	326	29	3.4	0.3	331	29	3.4	1.5	274	29	3.8	1.2	353	26	9.3	8.7	304	30	10.1	9.6	293								
3.0 "	30	4.8	2.6	267	28	4.0	2.1	292	29	4.5	2.7	309	29	4.5	2.0	318	22	11.7	10.9	300	26	10.1	8.2	300								
3.6 "	30	5.3	3.2	273	28	5.6	3.3	297	29	5.0	3.2	302	25	4.6	2.1	322	17	11.2	10.6	299	24	10.3	9.4	300								
4.5 "	30	5.8	3.5	281	26	6.1	3.2	308	29	5.9	4.0	313	6	6.2	3.9	264	9	7.3	5.3	310	20	11.3	10.2	300								
5.4 "	30	6.9	4.1	281	24	7.6	3.4	282	29	7.3	4.4	274	2	7.5	6.9	248	5	6.9	2.9	340	12	10.8	9.7	302								
6.0 "	30	8.3	4.5	265	23	8.9	4.3	267	29	9.1	5.4	265	1	7.2	7.2	225	3	7.9	7.5	010	9	11.1	9.5	296								
7.2 "	30	10.9	7.3	254	17	12.9	8.9	263	29	12.0	9.0	246					1	5.1	5.1	025	4	10.4	7.7	314								
9.0 "	27	17.1	14.8	245	10	21.7	16.9	261	26	20.5	17.1	249																				

TABLE IV--MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11--Vaisakha 10, 1881 Saka)

Station	NEW DELHI												POONA											
	0530*				1130				1730*				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	1.7	1.5	300	30	4.0	2.9	312	30	2.4	1.7	316	30	2.1	1.3	339	30	0.7	0.5	255	30	2.3	1.2	305
0.15 a. g. .	30	6.7	4.4	314	30	4.0	2.5	306	30	6.2	4.8	320	30	7.6	4.6	343	30	3.3	2.3	277	30	5.0	3.1	311
0.3 a. m. s. l.	30	5.0	3.4	318	30	4.2	3.0	308	30	4.4	3.3	325	30	6.2	3.9	341								
0.6 "	30	6.6	4.4	316	30	4.4	2.9	305	30	5.9	4.7	314	30	7.9	4.9	337	30	1.9	1.4	252	30	3.5	2.2	314
0.9 "	30	6.6	4.4	314	30	5.4	4.1	300	30	6.5	5.3	306	30	7.0	4.6	322	30	4.3	2.4	314	30	5.3	3.5	316
1.5 "	30	7.1	5.6	302	30	7.3	6.3	301	30	6.4	5.6	299	30	6.7	5.6	295	30	6.1	3.9	018	30	4.0	2.6	326
2.1 "	30	8.5	7.4	293	29	8.2	7.1	298	30	7.5	6.1	291	30	6.9	6.2	287	30	6.1	3.2	043	30	3.6	1.7	002
3.0 "	30	10.6	9.0	289	28	9.5	8.2	296	30	8.7	7.2	286	28	8.8	7.4	284	30	5.0	2.6	097	30	5.2	2.3	082
3.6 "	30	11.5	9.2	289	26	10.0	9.1	291	30	10.0	8.7	283	7	8.3	8.1	252	28	5.6	2.2	131	28	5.6	1.6	099
4.5 "	30	12.1	9.9	282	25	12.0	10.7	284	30	11.8	10.3	281	1	18.0	18.0	265	12	7.9	1.2	176	26	6.8	0.7	087
5.4 "	30	13.0	10.7	273	23	14.1	12.4	285	30	13.0	11.1	278									21	8.9	1.3	292
6.0 "	30	13.7	11.3	271	23	14.6	13.0	279	30	14.2	11.7	278									20	10.1	3.5	267
7.2 "	30	16.1	13.9	273	17	16.3	14.8	276	29	16.3	13.8	273									13	11.8	10.1	265
9.0 "	30	22.3	20.2	267	11	20.6	18.3	273	28	21.5	17.3	270									6	15.9	13.9	252

Station	POONA				PORT BLAIR												RAIPUR							
	2330				0530*				1130				1730*				2330				0530			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	1.4	1.1	252	30	0.6	0.2	288	30	2.3	0.9	090	30	1.6	0.3	345	30	1.1	0.5	332	30	1.9	0.3	333
0.15 a. g. .	30	5.0	4.1	269	30	3.5	1.4	321	30	2.3	0.9	072	30	3.5	0.6	316	29	2.1	0.5	348	30	6.2	1.4	345
0.3 a. m. s. l.					30	3.3	1.3	320	30	2.2	0.9	074	30	3.6	0.7	328	29	2.2	0.5	355				
0.6 "	30	2.7	2.3	258	30	3.7	0.8	320	30	2.5	0.4	021	30	3.4	0.8	004	29	2.2	0.5	065	30	6.9	1.6	347
0.9 "	30	6.4	5.1	303	30	4.0	0.7	200	29	2.6	0.2	346	30	3.3	0.7	020	29	1.8	0.7	093	30	7.1	1.9	338
1.5 "	30	6.1	4.2	336	30	4.7	1.2	096	28	2.8	0.8	101	30	3.9	0.9	015	29	2.4	1.2	116	30	5.1	2.3	336
2.1 "	30	4.3	2.8	044	30	5.0	2.8	106	28	4.0	1.7	111	30	5.4	2.5	102	29	3.3	2.1	098	30	4.7	3.1	321
3.0 "	29	5.6	4.1	091	30	6.8	3.7	104	26	5.3	2.6	109	30	6.4	3.0	106	25	4.0	2.1	097	27	6.2	4.9	302
3.6 "	27	6.5	4.4	112	30	6.6	4.0	105	24	5.1	3.3	100	30	6.5	2.7	097	21	4.0	2.7	089	11	5.4	5.0	286
4.5 "	9	7.2	2.5	135	30	7.1	4.6	111	22	5.4	3.3	108	30	6.7	3.8	112	13	4.1	3.3	104				
5.4 "	2	9.3	8.3	249	30	6.8	4.5	110	18	5.5	3.7	094	30	7.4	4.6	106	7	4.5	3.7	069				
6.0 "	2	10.0	9.5	251	30	7.3	4.7	110	16	5.1	4.5	084	30	7.8	6.0	111	2	4.6	4.5	147				
7.2 "					28	7.3	4.7	121	10	5.0	4.4	096	30	7.4	5.6	117								
9.0 "					25	7.1	4.3	145	5	6.3	5.9	106	24	6.8	3.4	140								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	RAIPUR								RAXAUL								SANTA CRUZ											
	1730				2330				0530				1130				1730				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.5	1.0	295	30	2.4	0.7	196	30	1.0	1.0	087	30	2.4	1.7	110	30	2.4	1.0	262	30	1.4	0.5	056				
0.15 a. g.	30	3.8	2.3	292	29	6.4	0.4	345	29	6.3	4.1	102	30	4.9	3.5	123	30	5.6	2.6	270	30	5.0	1.0	338				
0.3 a. m. s. l.									29	6.8	4.0	108	30	5.0	3.4	125	30	5.9	3.0	272	30	4.5	1.6	346				
0.6 "	30	4.2	2.7	294	29	6.5	1.0	348	29	6.6	0.9	161	30	5.2	3.1	125	30	6.3	4.3	272	30	5.6	3.0	358				
0.9 "	30	4.3	2.9	298	29	5.6	1.4	360	29	6.4	2.0	264	29	4.9	2.4	134	30	6.8	5.3	273	30	7.9	5.0	010				
1.5 "	30	4.2	3.0	302	29	4.2	2.2	343	28	6.3	5.3	277	28	5.3	2.9	248	28	7.8	7.0	277	30	7.7	4.9	012				
2.1 "	29	4.1	2.3	308	29	3.9	2.6	327	27	8.5	7.6	279	24	7.1	6.5	278	26	9.0	7.9	282	30	6.2	2.5	010				
3.0 "	29	4.9	3.4	312	29	4.9	2.7	322	23	9.3	9.3	258	17	8.9	8.3	283	23	10.1	9.6	285	30	6.1	2.0	136				
3.6 "	25	5.7	3.7	315	24	4.7	2.7	318	15	8.9	8.4	293					19	10.6	9.8	284	30	7.1	3.2	160				
4.5 "	19	6.2	3.9	308	3	6.3	6.3	276	14	11.5	10.8	289					17	10.7	9.4	284	30	7.4	2.5	178				
5.4 "	12	6.2	4.3	284	2	6.2	6.1	267	11	9.6	8.3	285					13	11.8	10.0	285	30	9.6	2.7	247				
6.0 "	7	8.4	7.2	293	1	6.7	6.7	280	10	10.7	7.9	280					12	14.4	11.6	285	30	10.0	4.9	249				
7.2 "									3	10.6	10.3	247					10	15.2	10.2	281	29	13.2	8.6	266				
9.0 "																	7	16.3	14.5	264	22	21.7	16.3	248				

Station	SANTA CRUZ								TEZPUR																			
	1130				1730*				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.2	2.3	274	30	6.9	5.8	298	30	2.0	1.2	304	30	1.6	1.5	077	30	2.2	1.6	085	30	1.3	0.8	079				
0.15 a. g.	30	4.0	2.1	287	30	9.5	8.2	304	30	5.2	3.5	317	26	5.5	6.0	074	29	4.8	3.8	089	29	4.8	3.1	075				
0.3 a. m. s. l.	30	3.8	0.8	341	30	8.7	7.3	300	30	6.2	4.3	325	26	5.5	5.1	082	29	4.8	3.8	085	29	4.7	2.8	089				
0.6 "	30	4.5	2.1	050	30	7.7	5.3	312	30	6.4	4.5	337	26	4.7	3.3	100	27	3.9	2.2	103	29	3.4	0.7	349				
0.9 "	30	5.7	3.0	048	30	6.7	4.6	320	30	6.8	4.9	352	25	3.6	1.1	164	27	3.6	1.3	168	29	3.7	2.4	274				
1.5 "	30	5.7	3.2	033	30	4.3	2.2	358	30	6.8	5.1	357	22	4.3	3.0	246	26	4.9	3.6	239	29	6.7	6.4	246				
2.1 "	30	5.3	2.3	061	30	4.6	2.1	057	29	5.0	2.3	008	20	6.8	6.1	262	23	7.1	5.5	244	27	9.6	9.5	247				
3.0 "	30	5.1	2.3	130	30	6.1	3.0	113	28	5.8	2.8	102	17	7.2	5.8	267	13	5.1	4.3	258	21	9.2	8.1	245				
3.6 "	29	5.3	1.7	146	30	6.8	3.3	127	25	7.4	4.1	123	12	7.0	4.8	266					18	9.0	8.0	250				
4.5 "	28	7.5	1.3	154	30	7.8	1.4	123	16	6.9	3.0	142	10	5.3	2.5	278					8	5.0	3.6	266				
5.4 "	28	8.4	1.6	250	30	8.5	1.6	229	8	7.5	0.6	269	5	6.7	3.6	289					4	10.5	10.3	282				
6.0 "	25	9.5	4.2	263	30	10.1	3.2	244	6	7.4	4.3	249	5	9.0	7.2	288					2	12.4	12.1	264				
7.2 "	22	11.2	6.9	246	30	12.3	8.4	250	2	8.0	3.2	255	3	21.0	20.1	281												
9.0 "	16	18.3	13.2	297	22	21.4	16.3	257					1	25.2	25.2	305												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	TEZPUR				TIRUCHIRAPALLI												TRIVANDRUM							
	2330*				0530				1730				2330				0530*				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.6	1.4	071	30	1.5	0.7	261	30	3.7	2.9	116	30	4.3	3.4	134	30	1.7	1.3	335	30	2.8	2.0	295
0.15 a. g. . .	25	5.8	4.9	081	30	4.4	1.6	225	30	4.8	3.7	110	28	6.5	5.1	143	30	2.3	1.7	332	30	4.1	3.0	287
0.3 a.m.s. l. .	25	6.1	5.0	085	30	4.6	2.1	229	30	5.0	3.8	111	28	6.7	5.3	145	30	4.3	3.9	331	30	3.8	2.8	290
0.6 " . . .	25	4.4	2.0	093	30	5.2	2.3	230	30	5.0	3.8	114	28	7.1	5.8	145	30	4.5	3.7	321	29	3.2	2.2	305
0.9 " . . .	25	3.5	1.5	239	30	4.8	2.0	214	30	4.8	3.3	111	28	6.2	4.7	139	30	4.3	3.5	320	27	3.5	2.6	335
1.5 " . . .	22	6.1	5.7	259	27	3.4	1.3	113	30	4.0	2.2	098	26	4.2	3.1	090	30	4.0	1.4	028	15	4.1	3.1	065
2.1 " . . .	18	7.5	7.2	256	25	5.8	4.7	067	30	5.0	3.6	055	24	6.3	5.6	066	30	5.2	4.1	066	10	6.3	5.9	080
3.0 " . . .	13	9.5	8.6	256	22	7.8	7.1	065	28	8.2	7.2	051	23	8.7	8.2	067	30	7.5	6.2	075	6	5.0	4.3	088
3.6 " . . .	8	8.9	6.5	238	15	8.0	7.3	061	26	7.5	6.1	056	12	9.4	8.8	070	30	7.0	4.7	077	3	3.2	1.0	100
4.5 " . . .	2	5.9	4.8	217	8	6.2	5.4	071	18	6.5	5.3	066	2	6.7	6.5	098	30	6.1	3.1	080	3	5.0	0.7	086
5.4 " . . .	2	8.5	6.6	230	4	4.6	2.6	108	14	6.3	4.0	083	1	3.6	3.6	025	30	6.7	3.1	089	2	4.9	0.9	145
6.0 " . . .	2	11.8	11.8	263	2	6.4	3.5	146	10	7.4	4.5	103					30	6.8	3.0	094	1	4.1	4.1	236
7.2 " . . .	1	12.9	12.9	250					8	8.1	4.8	134					30	7.5	3.2	091	1	3.6	3.6	240
9.0 " . . .									3	4.1	1.5	138					26	6.1	2.3	093				

Station	TRIVANDRUM				UDAIPUR												VENGURLA							
	1730*				2330				(053)				1730				2330				0530			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.1	1.6	290	30	1.9	1.4	360	30	0.4	0.3	301	30	2.0	0.7	251	30	0.5	0.1	270	30	0.7	0.2	326
0.15 a. g. . .	29	3.5	2.0	271	30	3.6	2.9	323	30	3.3	2.2	323	29	5.1	2.8	252	30	3.8	1.7	294	30	3.8	0.9	160
0.3 a.m.s. l. .	29	5.6	3.6	272	30	3.7	3.1	316													30	4.3	1.2	332
0.6 " . . .	29	4.8	3.3	288	30	4.3	3.4	303													30	4.9	1.6	337
0.9 " . . .	29	3.7	1.7	287	28	4.1	2.5	314	30	5.3	3.1	319	29	5.6	3.3	251	30	5.6	2.6	290	27	5.5	3.3	354
1.5 " . . .	29	4.2	2.6	050	27	4.7	2.3	031	30	5.5	3.3	306	29	5.5	3.9	263	30	6.5	3.8	283	26	6.1	4.3	005
2.1 " . . .	29	6.2	5.2	056	24	6.3	5.0	055	30	4.9	2.7	280	29	5.9	4.2	264	30	5.0	3.3	283	23	4.4	2.5	036
3.0 " . . .	29	7.3	6.2	060	21	8.0	7.0	068	29	6.6	4.2	269	29	6.6	4.9	264	28	5.3	3.8	253	21	4.3	2.6	092
3.6 " . . .	29	6.6	4.9	064	21	7.1	5.8	065	25	7.8	5.6	254	29	7.3	4.9	259	23	5.8	3.8	247	6	5.0	3.6	098
4.5 " . . .	29	6.0	2.7	081	15	6.2	0.7	112	4	7.6	5.6	268	29	9.3	6.0	248	11	8.2	5.5	239	1	3.6	3.6	300
5.4 " . . .	29	6.4	2.4	084	4	3.3	0.8	284					28	10.6	7.5	259	4	11.6	11.3	246	1	3.6	3.6	270
6.0 " . . .	29	6.5	2.2	085	2	5.1	4.7	259					24	12.5	9.6	263	2	11.8	11.4	254	1	4.1	4.1	290
7.2 " . . .	29	6.6	3.4	083									19	14.8	10.1	275	1	10.8	10.8	240				
9.0 " . . .	27	6.4	0.9	104									10	15.4	8.9	299								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Station	VENGURLA								VERAVAL																			
	1730				2330				0530*				1130				1730*				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.0	2.7	271	30	1.1	0.9	334	30	5.3	4.0	335	30	5.7	2.9	294	30	7.3	3.0	278	30	4.3	3.5	299				
0.15 a. g. . .	30	5.3	4.9	282	30	4.2	3.6	329	30	9.3	8.5	338	29	5.6	2.5	319	30	9.9	8.0	272	30	7.5	6.5	307				
0.3 a.m.s. l. . .	30	4.8	4.3	280	30	4.8	4.2	332	30	9.3	7.3	330	29	5.9	3.0	342	30	8.2	6.2	276	30	9.0	8.0	313				
0.6 „ . . .	30	5.1	4.3	286	30	5.6	4.8	333	30	9.3	7.2	331	29	6.6	3.8	344	30	6.6	4.3	285	30	8.1	7.0	314				
0.9 „ . . .	28	4.3	2.8	312	28	5.3	4.5	332	30	9.9	6.5	323	29	6.8	3.9	344	30	5.5	3.1	290	29	6.7	5.1	313				
1.5 „ . . .	26	3.3	1.4	006	27	4.6	2.9	326	30	7.2	4.2	320	29	6.3	3.1	327	30	5.8	3.2	309	28	5.4	2.5	309				
2.1 „ . . .	24	4.3	2.8	047	24	4.3	1.8	050	30	6.7	2.6	270	29	5.5	1.7	294	30	5.5	2.3	308	25	5.3	1.3	293				
3.0 „ . . .	22	6.4	5.0	065	23	7.2	6.4	091	30	7.9	4.6	213	29	7.2	2.1	217	30	8.5	2.6	250	24	6.1	0.8	219				
3.6 „ . . .	18	7.3	5.6	077	6	9.1	9.0	095	30	9.2	5.1	204	27	8.3	4.1	203	30	8.9	2.9	235	20	6.9	2.7	206				
4.5 „ . . .	15	6.5	2.8	064	1	8.7	8.7	105	30	9.7	4.5	229	27	9.2	4.3	207	30	8.6	4.1	235	12	8.5	5.4	215				
5.4 „ . . .	14	6.2	1.6	279					30	10.8	4.6	245	26	11.2	5.0	217	30	9.9	4.5	248	4	7.4	3.9	267				
6.0 „ . . .	13	7.5	2.9	260					30	11.6	4.8	246	25	12.1	4.7	231	30	11.7	6.1	238	2	13.4	11.9	253				
7.2 „ . . .	7	10.0	7.9	257					30	15.7	10.5	243	20	13.3	6.9	258	30	14.8	9.4	252								
9.0 „ . . .	2	23.7	18.5	240					29	26.7	22.2	244	14	18.7	13.4	256	30	24.1	18.6	244								

Station	VISAKHAPATNAM											
	0530				1730				2330			
Time in I. S. T.												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.2	1.1	231	30	5.1	4.8	215	30	2.2	2.0	220
0.15 a. g. . .	30	4.2	4.1	232	29	5.3	5.1	210	30	4.1	3.8	222
0.3 a. m. s. l. . .	30	5.0	4.9	232	29	5.0	4.8	215	30	4.9	4.7	228
0.6 „ . . .	30	5.5	5.3	235	29	4.4	3.9	222	29	5.5	4.9	239
0.9 „ . . .	30	4.9	4.3	237	29	3.6	2.7	228	29	4.7	3.8	247
1.5 „ . . .	30	3.2	1.1	262	27	3.3	1.1	030	27	3.2	1.0	208
2.1 „ . . .	28	3.9	1.9	008	27	4.3	3.2	044	24	3.6	1.6	046
3.0 „ . . .	24	4.9	2.9	013	27	6.4	4.9	032	19	5.4	3.4	031
3.6 „ . . .	18	5.7	2.9	012	25	6.8	4.3	014	9	5.5	1.6	008
4.5 „ . . .	12	5.7	1.1	003	22	6.7	3.5	010	2	2.8	2.4	246
5.4 „ . . .	5	8.1	5.2	063	18	6.8	2.0	355				
6.0 „ . . .	2	3.1	3.0	062	13	7.3	1.0	295				
7.2 „ . . .	1	6.2	6.2	130	10	7.3	4.7	247				
9.0 „ . . .	1	5.7	5.7	205	2	19.0	18.4	279				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	AHMEDABAD					BANGALORE 1730 hrs.					GANNAVARAM 1730 hrs.					JODHPUR 0530 hrs.*					NAGPUR 1130 hrs.			
10.5	2	32.6	31.6	239	10.5	5	9.0	8.2	178	10.5	2	9.3	9.2	233	10.5	19	35.1	32.9	250	10.5	3	27.4	15.4	260
					12.0	5	10.1	7.6	205						12.0	12	34.8	32.5	259	12.0	2	29.6	29.5	235
	AMAUSI 1730 hrs.				14.1	4	5.5	2.1	188		GAUHATI 0530 hrs.*				14.1	4	26.6	26.2	253		1730 hrs.*			
10.5	1	23.2	23.2	010	16.2	4	7.1	4.0	100	10.5	23	34.2	32.5	266	10.5	16	29.9	23.1	250	10.5	21	24.9	21.8	247
12.0	1	26.7	26.7	360	18.0	2	6.7	6.6	082	12.0	13	44.0	41.8	260	10.5	16	29.9	23.1	250	12.0	20	24.2	21.4	240
	AMBALA 1730 hrs.				10.5	5	18.9	5.9	239	14.1	6	35.0	34.3	274	12.0	14	35.3	26.4	250	14.1	11	22.2	15.2	260
10.5	7	26.4	20.9	278	12.0	1	38.6	38.6	315	10.5	20	40.1	38.8	266	14.1	8	34.1	30.8	234	16.2	10	10.7	9.3	258
12.0	6	36.1	32.9	266		BEGUMPET 1730 hrs.				12.0	12	47.6	46.0	263	16.2	1	8.2	8.2	120	18.0	6	7.6	3.8	265
14.1	3	35.1	30.7	272	10.5	1	4.6	4.6	290	14.1	4	33.8	32.2	255		MADRAS 0530 hrs.*					NEW DELHI 0530 hrs.*			
16.2	2	37.9	36.3	285	12.0	1	5.7	5.7	295	10.5	2	17.5	17.5	197	10.5	24	25.2	3.8	204	10.5	27	30.5	25.2	265
18.0	1	26.2	26.2	270		BHAGALPUR 1730 hrs.				12.0	1	5.7	5.7	295	12.0	22	10.2	7.5	204	12.0	20	34.0	28.4	265
	AMRITSAR 0530 hrs.*				10.5	1	20.6	20.6	280	10.5	3	26.4	21.0	256	16.2	12	9.6	3.4	199	14.1	14	31.6	25.8	273
10.5	17	30.3	27.2	270	12.0	1	25.2	25.2	270	12.0	1	12.9	12.9	345	18.0	8	11.4	2.4	177	16.2	6	22.9	21.2	258
12.0	8	30.3	28.3	266		BHUBANESHWAR 0530 hrs.				10.5	9	12.8	8.6	259	21.0	2	11.8	6.2	061	18.0	4	17.1	15.7	260
14.1	1	35.5	35.5	250	10.5	1	28.8	28.8	270	10.5	8	11.7	8.5	252	10.5	4	7.9	6.9	187	21.0	1	4.1	4.1	310
10.5	19	28.0	25.1	260	10.5	3	11.3	3.3	335	12.0	8	11.7	8.5	252	12.0	3	8.7	8.6	201	10.5	6	26.7	21.9	274
12.0	10	30.0	26.3	260	12.0	2	19.8	7.7	308	14.1	5	5.7	1.8	312	10.5	28	9.7	5.6	217	12.0	1	34.9	34.9	275
14.1	2	33.7	32.4	270		BIKANER 1730 hrs.				16.2	4	7.5	6.6	056	12.0	25	10.8	7.6	214	10.5	25	30.1	25.5	261
	ANANTAPUR 1730 hrs.				10.5	7	25.5	20.2	273	18.0	1	6.7	6.7	025	14.1	19	10.2	6.5	220	12.0	22	34.0	30.0	265
10.5	2	8.5	6.9	215	12.0	4	21.1	15.3	290		DEHRADUN 1730 hrs.				16.2	16	7.5	3.9	165	14.1	12	29.2	26.6	275
	ASANSOL 1730 hrs.				16.2	1	7.2	7.2	325	10.5	2	32.4	32.1	264	18.0	9	12.0	9.5	140	16.2	4	24.3	22.7	288
10.5	1	23.7	23.7	230	18.0	1	15.4	15.4	335	12.0	1	30.3	30.3	250	21.0	4	9.3	6.5	095	18.0	3	13.7	12.9	211
	BAIRAGARH 1730 hrs.				10.5	24	22.1	21.3	257	10.5	2	26.7	22.8	255	10.5	1	9.3	9.3	210	21.0	1	4.6	4.6	360
10.5	1	22.7	22.7	285	12.0	21	24.0	23.0	254	12.0	1	30.3	30.3	315		MANGALORE 1730 hrs.					POONA 1130 hrs.			
	BAMRAULI 0530 hrs.*				14.1	13	23.8	22.2	260	10.5	6	22.8	21.4	240	10.5	1	6.7	6.7	120	10.5	4	16.1	13.8	242
10.5	20	37.5	35.2	256	16.2	4	12.7	11.6	268	12.0	1	30.3	30.3	315	10.5	1	6.7	6.7	120	12.0	3	21.8	19.6	243
12.0	10	41.8	39.1	265	18.0	1	4.1	4.1	050		JABALPUR 1730 hrs.				12.0	1	17.5	17.5	135		PORT BLAIR 0530 hrs.*			
14.1	3	40.5	38.8	280	10.5	26	21.7	20.7	254	10.5	6	22.8	21.4	240	14.1	1	5.1	5.1	125	10.5	21	7.1	3.3	173
10.5	2	13.4	12.4	276	12.0	24	21.6	19.8	249	12.0	5	25.3	22.3	235	10.5	24	24.1	20.4	243	12.0	18	8.3	4.5	155
	1130 hrs.				14.1	11	23.2	22.4	265	16.2	2	14.4	11.6	227	12.0	18	28.9	23.4	250	14.1	11	10.7	7.6	132
10.5	17	37.8	35.7	254	18.0	2	29.6	29.6	249	18.0	2	19.8	15.9	245	14.1	17	20.6	16.7	242	16.2	6	11.3	10.4	113
12.0	6	31.0	27.8	263		GADAG 1730 hrs.				10.5	3	12.7	12.5	276	16.2	12	17.0	15.5	246	18.0	3	6.2	6.2	115
14.1	1	40.1	40.1	270	10.5	2	12.6	12.6	205	10.5	1	19.0	19.0	255	18.0	6	15.2	8.7	250	10.5	2	8.2	7.7	128
	1730 hrs.*				12.0	1	12.4	12.4	205	12.0	1	12.4	12.4	265	21.0	4	20.3	16.7	241	12.0	1	10.8	10.8	160
	1730 hrs.*				14.1	1	12.4	12.4	205	14.1	1	12.4	12.4	265	24.0	2	40.4	39.9	248	14.1	1	10.3	10.3	170
	1730 hrs.*				14.1	1	12.4	12.4	205	14.1	1	12.4	12.4	265	27.0	1	44.7	44.7	230	16.2	1	9.8	9.8	150

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9 Km. above mean sea level

April, 1959 (Chaitra 11—Vaisakha 10, 1881 Sakha)

Ht. in Km.	N	V	v	D	Ht. in Km.	N	V	v	D
	PORT BLAIR					TRIVANDRUM			
	1730 hrs.*					1730 hrs.*			
10.5	16	8.2	4.5	153	10.5	23	6.9	3.2	158
12.0	9	8.7	5.6	170	12.0	22	9.7	6.6	146
14.1	5	9.3	8.7	138	14.1	21	8.5	4.0	131
16.2	3	12.4	8.4	125	16.2	12	7.6	3.8	080
18.0	2	15.7	15.7	106	18.0	6	10.1	9.4	083
21.0	1	29.8	29.8	140					
	RAXAUL					UDAIPUR			
	1730 hrs.					1730 hrs.			
					10.5	4	21.3	19.0	253
					12.0	3	24.4	21.0	253
10.5	5	24.8	24.6	260	14.1	2	28.1	25.4	304
12.2	3	32.7	31.8	254	16.2	2	19.6	18.6	305
	SANTA CRUZ					VERAVAL			
	0530 hrs.*					0530 hrs.*			
					10.5	28	32.9	26.7	240
10.5	18	29.0	25.2	240	12.0	23	34.1	25.7	247
12.0	12	29.7	25.5	240	14.1	17	29.0	23.2	247
14.1	8	20.7	19.0	243	16.2	8	22.9	21.1	270
16.2	5	11.7	8.0	117	18.0	4	11.6	4.4	280
18.0	1	5.1	5.1	190	21.0	1	8.7	8.7	090
	1130 hrs.					1130 hrs.			
					10.5	9	23.3	15.5	284
10.5	9	26.6	16.9	233	12.0	4	21.4	13.4	314
12.0	2	23.4	20.8	236					
14.1	1	26.2	26.2	220					
	1730 hrs.*					1730 hrs.*			
					10.5	29	31.6	24.6	243
10.5	15	25.5	20.7	240	12.0	25	30.4	23.2	257
12.0	11	24.9	18.9	250	14.1	19	21.9	18.5	265
14.1	6	18.4	17.5	245	16.2	12	13.0	9.0	263
16.2	2	6.7	6.4	214	18.0	7	15.8	9.6	281
18.0	2	5.4	4.6	102	21.0	2	7.7	2.8	225
21.0	1	63.2	63.2	230					
	TIRUCHIRAPALLI					VISAKHAPATNAM			
	1730 hrs.*					1730 hrs.*			
					10.5	1	18.0	18.0	245
10.5	2	6.2	5.9	152					
	TRIVANDRUM					TRIVANDRUM			
	0530 hrs.*					0530 hrs.*			
					10.5	25	8.8	3.6	141
10.5	25	8.8	3.6	141	12.0	23	9.0	5.5	161
12.0	23	9.0	5.5	161	14.1	19	9.0	4.8	139
14.1	19	9.0	4.8	139	16.2	8	7.5	4.7	146
16.2	8	7.5	4.7	146	18.0	2	9.5	6.1	176
18.0	2	9.5	6.1	176	21.0	1	6.7	6.7	210
21.0	1	6.7	6.7	210					

RADIOSONDE DATA

April, 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of Station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad . . .	Clock type	1st October, 1944	00 and 12	
2	Amritsar . . .	Clock type	21st June, 1957	00 and 12	
3	Bombay . . .	Clock type	7th September, 1954	00 and 12	
4	Calcutta . . .	Clock type	13th December, 1946	00 and 12	Fan type used from 13th December, 1946 to 30th November, 1947.
5	Gauhati . . .	Clock type	22nd July, 1955	00 and 12	
6	Jodhpur . . .	Clock type	17th April, 1946	00 and 12	
7	Madras . . .	Fan type	29th June, 1946	00 and 12	
8	Nagpur . . .	Fan type	1st October, 1946	00 and 12	
9	New Delhi . . .	Clock type	3rd December, 1943	00 and 12	
10	Port Blair . . .	Fan type	4th December, 1949	00 and 12	
11	Trivandrum . . .	Fan type	1st July, 1947	00 and 12	
12	Veraval . . .	Fan type	3rd October, 1944	00 and 12	
13	Visakhapatnam . . .	Fan type	8th December, 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Standard pressure surface mbs.	MADRAS Surf. Pr. (1007 mb.)						NAGPUR (973 mb.)						NEW DELHI (983 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	300.6	302	299	297.5	30	311	298.1	304	294	283.6	30	210	294.8	300	289	284.6
1000	30	073	..	..	..	..	30	067	..	..	..	..	30	062	..	..	..	..
900	30	1001	296.1	301	292	286.3	30	997	300.8	305	295	278.3	30	987	299.3	305	293	277.1
850	30	1498	294.6	300	289	278.9	30	1500	297.5	302	292	276.0	30	1487	295.7	301	287	273.0
800	30	2021	291.7	299	287	276.0	30	2026	293.1	297	287	275.5	30	2012	292.3	296	285	271.4
700	30	3151	283.8	289	280	267.9	30	3159	283.5	288	278	270.4	30	3140	283.0	287	277	265.5
600	30	4418	276.0	282	272	258.3	30	4419	273.5	278	270	260.6	30	4399	273.0	279	267	253.5
500	30	5871	267.7	272	264	..	30	5859	264.8	271	258	..	30	5834	263.2	268	257	..
400	30	7592	257.8	263	252	..	30	7560	254.4	259	246	..	30	7518	251.4	256	244	..
300	26	9715	244.0	250	235	..	28	9650	241.4	249	235	..	30	9575	236.5	243	231	..
250	22	10984	234.7	240	225	..	26	10919	232.8	241	226	..	28	10810	228.7	236	222	..
200	22	12485	223.7	231	212	..	22	12395	222.1	229	215	..	25	12281	222.2	231	213	..
175	18	13347	218.4	222	207	..	22	13257	217.6	224	212	..	25	13144	218.7	229	211	..
150	15	14328	212.6	217	201	..	22	14231	212.6	218	206	..	23	14123	214.5	223	208	..
125	13	15450	208.0	209	202	..	20	15350	207.5	214	201	..	22	15280	209.6	217	204	..
100	10	16804	201.6	206	193	..	18	16706	202.8	211	194	..	20	16621	204.9	211	197	..
80	7	18179	200.7	204	197	..	12	18043	201.6	208	195	..	17	17957	203.6	211	192	..

Standard pressure surface mbs.	PORT BLAIR (1000 mb.)						TRIVANDRUM (1001 mb.)						VERAVAL (1007 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	079	298.0	301	297	295.9	30	064	299.1	302	297	296.3	30	008	298.3	303	295	292.3
1000	30	082	..	..	..	..	30	072	..	..	..	..	30	070	..	..	..	..
900	30	1007	294.5	297	290	291.1	30	996	294.5	297	293	288.7	30	998	299.0	306	291	276.3
850	30	1501	292.1	295	289	287.3	30	1491	292.1	295	289	285.3	30	1499	296.4	303	289	273.4
800	30	2021	289.1	293	286	284.5	30	2010	289.5	293	286	278.9	30	2024	292.4	300	285	270.8
700	30	3144	282.8	286	279	277.0	30	3135	283.5	287	281	270.7	30	3152	283.0	288	279	268.3
600	30	4411	276.6	281	273	269.3	30	4401	276.0	282	271	263.5	30	4410	273.9	278	269	259.3
500	30	5867	268.0	275	263	..	30	5858	267.5	273	263	..	30	5819	264.3	269	258	..
400	29	7584	256.6	264	251	..	30	7578	257.5	262	251	..	30	7543	253.3	262	245	..
300	26	9694	242.1	251	237	..	27	9696	243.3	247	235	..	30	9624	240.0	247	231	..
250	24	10965	231.6	240	224	..	27	10973	233.7	239	227	..	30	10886	232.1	238	225	..
200	23	12452	220.8	231	213	..	26	12460	222.3	229	213	..	30	12378	223.3	232	214	..
175	18	13268	213.2	222	208	..	22	13306	216.2	223	206	..	30	13245	219.1	229	208	..
150	16	14236	207.3	216	202	..	21	14283	209.4	216	197	..	29	14224	21.37	223	202	..
125	14	15338	201.5	211	198	..	17	15377	203.1	213	190	..	28	15351	207.7	220	196	..
100	6	16613	194.5	199	193	..	11	16710	199.6	207	191	..	20	16724	204.1	215	194	..
80	..	..	..	..	..	..	5	18096	198.4	205	193	..	14	18076	202.0	210	194	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

April 1959 (Chaitra 11— Vaisakha 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1003 mb.)					
	No. of Obs.	Ht. gpm.	Temperature°A			
			Mean	Max.	Min.	Dew point
Surface	29	048	300.3	302	298	296.7
1000	29	072	..	..	..	..
900	29	1003	297.9	303	294	284.7
850	29	1504	296.0	300	292	280.3
800	29	2030	292.8	297	289	278.2
700	29	3162	284.1	290	281	271.6
600	29	4427	275.2	283	272	259.3
500	29	5879	267.1	276	261	..
400	28	7593	256.5	263	250	..
300	23	9693	241.5	246	235	..
250	22	10954	232.1	239	225	..
200	18	12445	221.5	228	209	..
175	14	13268	214.2	221	204	..
150	13	14234	207.2	215	200	..
125	12	15338	202.3	209	196	..
100	9	16617	197.7	205	192	..
80	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G.M.T.

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Standard Pressure Surface mbs.	ALLAHABAD Surf. Pr. (993 mb.)						AMRITSAR (980 mb.)						BOMBAY (1005 mb.)						
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point	
Surface	30	098	309.9	314	301	284.5	30	230	305.8	310	297	284.7	30	013	305.0	310	303	295.9	
1000	29	035	..	..	..	..	30	051	..	..	..	..	30	058	..	..	..	..
900	29	988	304.0	308	298	276.0	30	992	300.7	306	291	276.7	30	999	300.3	306	297	285.5	
850	29	1493	299.7	305	293	272.3	30	1494	296.5	301	286	272.9	30	1501	297.9	303	291	281.5	
800	29	2022	294.6	299	288	272.6	30	2018	292.3	298	283	270.1	30	2034	294.7	303	288	279.1	
700	29	3155	285.0	291	279	263.6	30	3145	283.0	290	277	256.7	30	3173	286.5	292	282	274.4	
600	29	4422	275.6	283	269	252.6	30	4399	273.6	282	267	243.2	30	4449	276.8	283	272	265.3	
500	29	5869	265.7	272	258	..	29	5835	263.5	269	257	..	30	5908	267.4	273	264	..	
400	28	7571	254.0	260	247	..	28	7514	250.3	255	232	..	30	7624	256.4	260	252	..	
300	27	9654	240.7	248	235	..	25	9569	235.9	242	229	..	23	9745	243.2	249	237	..	
250	26	10915	232.9	241	227	..	22	10804	227.4	234	219	..	17	11004	235.7	241	231	..	
200	22	12429	223.9	231	218	..	19	12291	222.2	229	213	..	16	12515	226.1	231	219	..	
175	18	13290	219.4	227	212	..	16	13162	220.0	225	214	..	13	13384	220.5	227	212	..	
150	11	14266	213.9	222	207	..	14	14127	216.6	222	211	..	11	14392	215.7	223	209	..	
125	6	15477	209.5	220	204	..	13	15273	212.7	217	209	..	10	15530	208.5	215	203	..	
100	5	16838	203.4	210	199	..	12	16663	209.3	217	205	..	5	16871	202.4	207	197	..	
80	5	18163	203.0	209	197	..	11	18084	207.9	215	202	..	..	..	..	..	..	..
			CALCUTTA (1004 mb.)				GAUHATI (999 mb.)				JODHPUR (981 mb.)								
Surface	30	006	306.2	311	296	295.8	30	049	303.1	307	295	295.5	28	218	311.1	314	302	283.1	
1000	30	038	..	..	..	..	30	045	..	..	..	..	28	043	..	..	..	..
900	30	980	300.4	310	293	286.6	30	977	297.2	303	293	289.1	28	998	303.9	309	299	275.3	
850	30	1483	297.1	305	291	282.3	30	1476	293.9	299	288	285.7	28	1503	299.3	305	294	271.3	
800	30	2008	292.9	301	284	279.6	30	1996	290.0	296	282	282.4	28	2033	294.4	301	288	269.4	
700	30	3140	284.3	291	277	270.6	30	3121	283.1	288	276	272.2	28	3164	284.2	292	278	260.5	
600	30	4407	275.9	282	271	257.0	30	4386	275.7	281	270	262.9	28	4431	274.4	281	270	252.7	
500	30	5862	267.7	274	263	..	30	5839	267.5	274	262	..	28	5873	264.5	272	258	..	
400	30	7579	256.5	262	251	..	29	7552	256.1	263	249	..	28	7562	252.0	257	246	..	
300	28	9678	241.7	247	236	..	23	9656	242.4	248	235	..	21	9615	236.2	242	231	..	
250	27	10951	232.7	238	226	..	19	10924	233.3	238	226	..	20	10861	229.6	233	223	..	
200	26	12452	223.1	227	218	..	19	12425	225.4	231	216	..	18	12343	222.7	228	217	..	
175	19	13292	216.4	222	211	..	10	13324	219.9	227	214	..	17	13209	219.2	226	216	..	
150	17	14256	210.4	217	207	..	7	14305	214.3	221	209	..	13	14181	213.8	217	209	..	
125	10	15341	204.3	213	196	..	..	..	..	..	..	..	12	15295	208.1	214	200	..
100	8	16691	201.5	210	197	..	..	..	..	..	..	..	8	16649	203.9	211	199	..
80	..	..	..	..	..	..	..	..	..	..	..	..	6	17968	208.5	212	204	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1005 mb.)						NAGPUR (970 mb.)						NEW DELHI (982 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	304.1	307	302	297.1	29	311	310.9	315	305	282.4	30	210	305.6	312	301	284.7
1000	30	059	..	..	..	..	29	030	..	..	..	..	30	046	..	..	..	..
900	30	996	298.7	303	293	284.9	29	986	305.4	312	299	279.0	30	992	302.9	307	295	276.2
850	30	1496	295.7	299	290	279.3	29	1497	300.4	306	295	277.0	30	1497	298.5	303	292	270.9
800	30	2020	292.5	296	286	276.1	29	2027	295.6	300	289	276.0	30	2024	294.0	298	287	270.3
700	30	3153	284.5	289	283	269.0	29	3167	285.4	291	280	272.2	30	3158	284.9	289	281	264.6
600	30	4423	276.6	284	272	261.4	29	4435	274.5	278	270	262.8	30	4424	275.1	280	271	253.5
500	30	5880	268.7	272	263	..	29	5879	265.8	269	261	..	30	5868	265.5	270	261	..
400	30	7605	258.0	264	249	..	27	7580	255.0	258	250	..	30	7567	253.6	259	246	..
300	28	9728	244.4	251	234	..	25	9673	240.5	246	233	..	28	9640	238.3	248	230	..
250	27	11008	235.3	242	228	..	22	10936	232.7	240	224	..	28	10895	231.1	241	223	..
200	25	12500	224.3	233	220	..	20	12407	221.8	228	212	..	26	12374	223.7	235	213	..
175	19	13359	219.2	224	217	..	14	13263	216.8	222	213	..	23	13254	221.3	232	215	..
150	17	14369	213.4	219	209	..	12	14233	211.2	217	205	..	18	14240	218.2	228	212	..
125	15	15468	207.8	215	203	..	12	15344	206.9	212	202	..	15	15406	213.4	222	208	..
100	13	16822	201.3	208	196	..	12	16692	201.5	207	194	..	13	16785	208.1	215	204	..
80	8	18123	199.7	203	196	..	9	18004	199.0	204	193	..	9					
Standard Pressure Surface mbs.	PORT BLAIR (999 mb.)						TRIVANDRUM (1000 mb.)						VERAVAI (1007 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	079	302.2	304	298	296.7	30	064	302.4	305	298	296.5	30	008	303.2	309	302	297.1
1000	30	071	..	..	..	..	30	064	..	..	..	..	30	068	..	..	..	..
900	30	999	294.6	299	291	293.4	30	995	296.4	299	294	289.2	30	975	301.3	305	298	278.1
850	30	1493	292.3	297	289	289.1	30	1493	293.8	296	291	286.2	30	1508	297.2	301	293	275.0
800	30	2013	289.4	295	283	285.6	30	2015	290.7	294	289	282.1	30	2035	292.9	296	289	274.2
700	30	3139	283.3	291	278	278.8	30	3146	284.5	287	282	272.9	30	3165	284.0	288	280	267.3
600	30	4408	276.4	282	273	271.7	30	4419	277.2	282	274	265.4	30	4431	274.9	282	268	255.3
500	30	5864	268.5	273	264	..	30	5881	269.2	273	266	..	30	5874	266.0	271	259	..
400	30	7584	257.0	267	248	..	30	7610	259.0	264	253	..	30	7577	254.0	260	249	..
300	22	9703	243.0	249	234	..	28	9732	244.4	251	240	..	30	9664	240.9	247	234	..
250	17	10953	232.5	238	223	..	23	11019	235.8	244	229	..	30	10934	232.9	239	224	..
200	12	12465	222.6	230	213	..	22	12523	224.7	235	219	..	28	12113	223.6	232	216	..
175	9	13294	215.8	223	205	..	22	13376	218.6	223	210	..	27	13280	219.2	227	210	..
150	8	14311	209.5	217	202	..	22	14360	213.3	220	203	..	25	14253	213.2	222	204	..
125	5	15418	204.2	209	201	..	18	15473	208.0	214	199	..	24	15370	207.7	216	197	..
100	..	..	..	..	..	..	15	16802	201.4	207	193	..	22	16709	200.8	211	192	..
80	..	..	..	..	..	..	11	18165	202.1	213	192	..	20	18009	205.5	210	192	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G.M.T.

April 1959 (Chaitra 11—Vaisakha 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1001 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	303.0	304	301	297.6
1000	30	058	..	..	..	..
900	30	993	299.2	303	294	285.8
850	30	1495	296.6	301	291	281.3
800	30	2022	293.0	297	285	278.9
700	30	3154	283.8	289	281	274.6
600	30	4419	275.1	281	269	265.4
500	29	5873	267.3	273	261	..
400	29	7592	257.3	265	250	..
300	27	9724	244.0	253	237	..
250	25	11002	234.9	245	224	..
200	20	12480	222.6	228	215	..
175	18	13314	215.6	222	208	..
150	17	14278	210.2	219	204	..
125	14	15377	204.1	210	197	..
100	12	16742	200.5	206	192	..
80	6	18054	198.2	204	188	..

NOTE:--Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

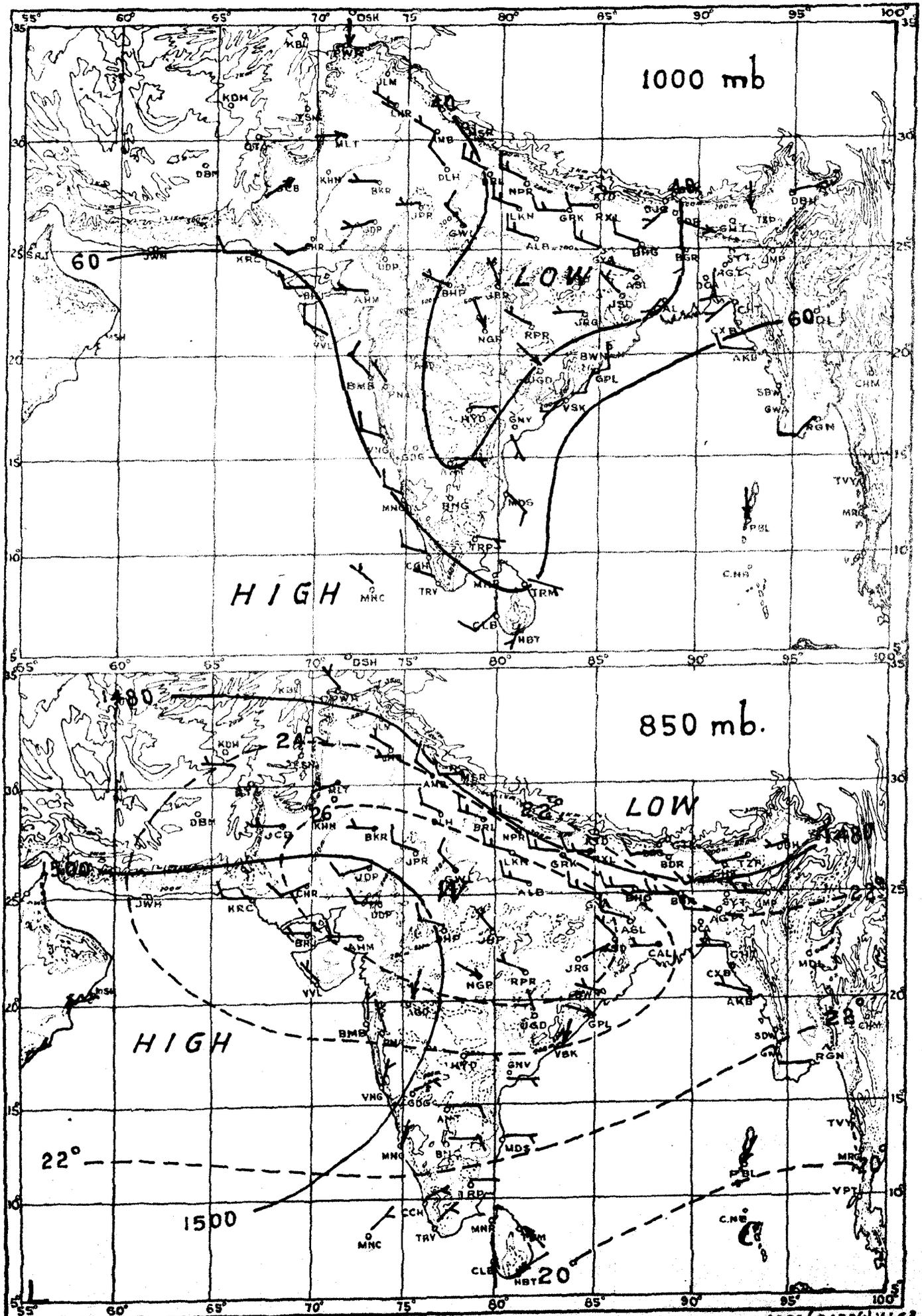
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

APRIL 1959

I. Met. D.

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

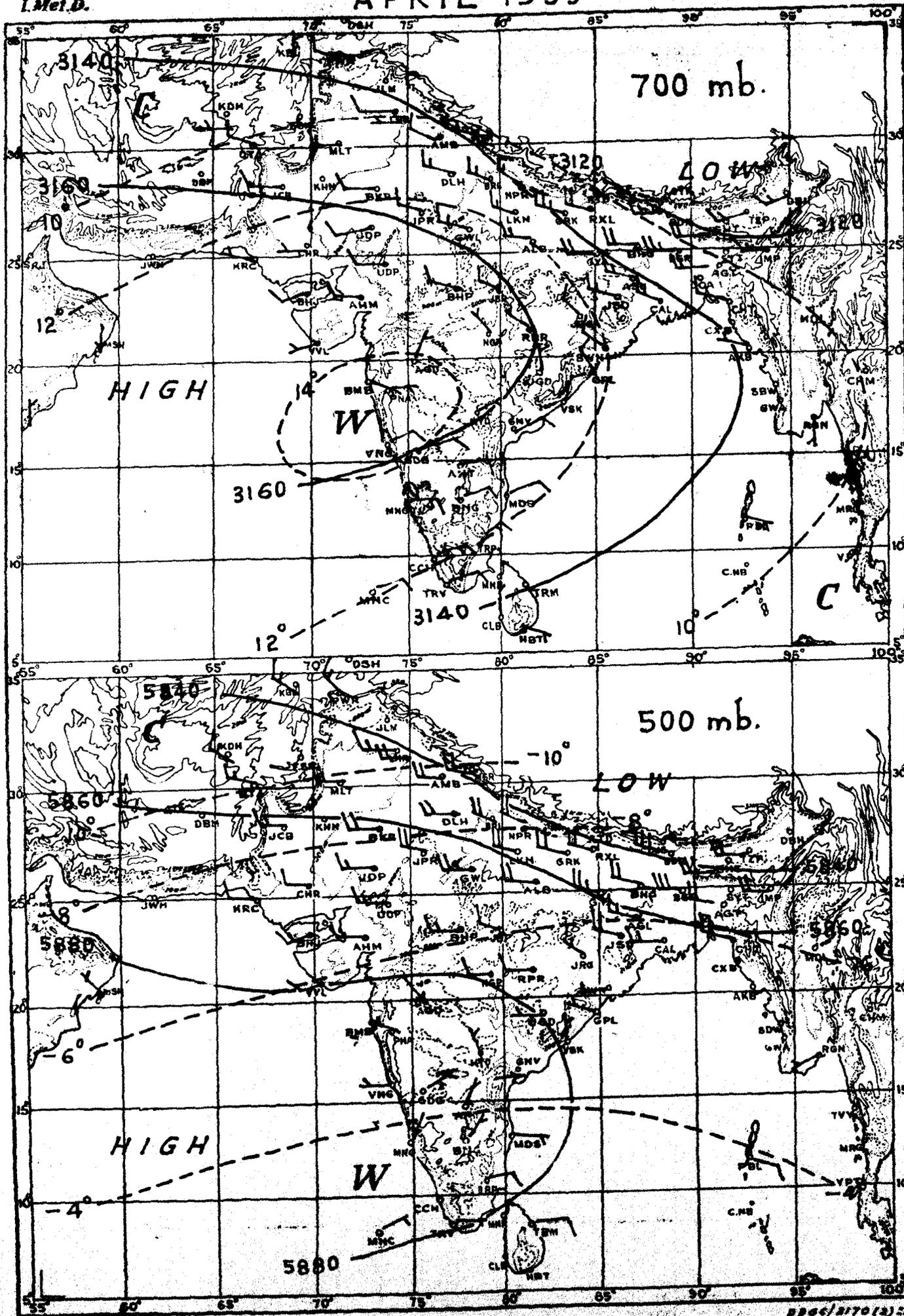
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

APRIL 1959

Plate II

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

5906/2170(2) 2163

I. Met. D. 1959



INDIA WEATHER REVIEW 1959

Monthly Weather Report

May

Registered No. 236

25 JUN 14

Copy 1955



Published by authority of the Government of India

Chief features :

- 1) Good thunderstorm activity in northeast India and in the south Peninsula,
- 2) Development of a severe cyclonic storm in the Arabian Sea during the third week, and
- 3) Advance of the southwest monsoon in the Indian region towards the end of the month.

Four western disturbances affected the weather over the northern parts of the country during the month. The first western disturbance was over Afghanistan on 3rd May and moved away across Kashmir by 6th. Local rain or thundershowers occurred in Jammu and Kashmir on 5th, Gulmarg recording 6 cms of rain on that day. In association with the second western disturbance which moved through the extreme north of the country, Jammu and Kashmir experienced local thundershowers on 9th and scattered light showers on 8th and 10th. The third western disturbance which had a similar track was associated with scattered thundershowers in Jammu and Kashmir between 13th and 16th. The fourth disturbance was comparatively more active. In association with it, local thundershowers occurred in Jammu and Kashmir, scattered thundershowers in the Punjab (I) and local or scattered thundershowers in Himachal Pradesh from 17th to 19th.

A cyclonic circulation appeared over north Rajasthan and the adjoining Punjab (I) on 26th May. It persisted there for four days and became unimportant by 31st. Under its influence, moist current in the lower troposphere penetrated into the region extending from east Rajasthan and the south Punjab (I) to northeast India. Extensive thunderstorm activity occurred over the area towards the close of the month. According to press reports, some of the thunderstorms in Rajasthan, Madhya Pradesh and Maharashtra caused uprooting of trees and collapse of hutments. Six persons were reported to have died in Jaipur due to house collapses on 31st.

A depression formed in the southeast Arabian Sea centred about 650 kms west of Cochin on the morning of 19th May. It intensified into a cyclonic storm on 21st. Moving in a northwesterly direction, it intensified into a severe cyclonic storm by the same evening with centre about 900 kms. southwest of Bombay. Later, it moved westnorthwestwards and struck the Saudi Arabian coast on 25th. Under its influence, maritime air penetrated into the south Peninsula where appreciable thunderstorm activity occurred between 18th and 22nd. Fairly widespread thundershowers occurred in coastal and south interior Mysore, in Kerala and the Arabian Sea Islands during this period. The swell emanating from the region of the severe cyclonic storm affected the coast as far away as Bombay. According to press reports, the swell wave caused inundation and partial destruction of many salt pans around Thana and Bassein creeks.

The Bay branch of the southwest monsoon advanced into the south Andaman Sea and the adjoining southeast Bay of Bengal on 25th and extended into the north Andaman Sea by 27th. The Arabian Sea branch of the monsoon advanced into the Comorin Maldives areas on 30th and into south Kerala on 31st.

Day temperatures were appreciably above normal in Bihar during the second and third weeks of May and in Gangetic West Bengal during the third week. They were also appreciably above normal in parts of northwest India and in Saurashtra and Kutch on a few days during these two weeks. The temperatures were, however below normal in the south Peninsula practically throughout the month.

The total rainfall during the month was in large excess in Bihar Plains, Uttar Pradesh, the Punjab (I), east Rajasthan, west Madhya Pradesh, Rayalaseema, coastal Mysore, Kerala and the Arabian sea Island., in moderate excess in Assam and in slight excess in Maharashtra and north Interior Mysore. It was normal in Jammu and Kashmir, east Madhya Pradesh and the Madras State, in slight defect in Bihar plateau, west Rajasthan, Telangana and south Interior Mysore, in moderate defect in the Bay Islands, West Bengal and Orissa and in large defect over the rest of the country.

“Copyright © 1959 by Manager of Publications, Government of India, Delhi-8.”

The mean maximum temperature was above normal in the Bay Islands, Gangetic West Bengal, Bihar, Gujarat, Saurashtra and Kutch and the Konkan and normal over the rest of the country outside Jammu and Kashmir, where it was below normal. The mean minimum temperature was above normal in the Bay Islands, Gangetic West Bengal, Jammu and Kashmir, east Madhya Pradesh, Gujarat, Maharashtra and Interior Mysore and normal over the rest of the country.

The mean relative humidity in the morning was above normal in the Punjab (I), Rayalaseema and the Arabian Sea Islands and below normal in Gujarat. it was normal over the rest of the country.

The mean cloud amount in the morning was below normal in Gangetic West Bengal, and Bihar plateau and above normal over the rest of the country, outside the Bay Islands, Orissa, Bihar plains, west Uttar Pradesh, Saurashtra and Kutch, the Konkan, coastal Andhra Pradesh and Telangana, where it was normal.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column; similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5;
The 18th August, 1960. }

C. RAMASWAMY,
for Director General of Observatories.

Errata to M.W.R. May, 1959 (Vaisakha 11- Jyaistha 10, 1881 Saka)

Page No	Station	Hour	Column	For	Reed
231	Text Portion	-	-	Last para, fourth line, in between normal and Jammu	in
<u>Table I Division.</u>					
233	11. Andhra Pradesh		5	7.7	27.7
<u>Table II</u>					
234	Barrackpore		29	0	1
234	Sandheads		16	+8.0	+0.8
234	Balesore		15	6	7
234	Chandbali		8	19.9	21.9
234	Cuttack		2	39.9	39.6
235	Chaibasa		12	+27.4	+12.4
235	Patna (Aerodrome)		8	12.2	21.2
235	Gonda		2	41.1	40.1
235	Lucknow		3	-0.1	-0.7
235	Agra		9	(Not clear)	27, 28
235	Mainpuri		9	(Not clear)	21
236	Ludhiana		10	(Not clear)	19.2
236	Ferozepur		9	6.9	6, 9
236	Jaipur		1	Jaipur	Jaipur*
236	Foot note			*Data not reliable.	*Observations for 27 days.
236	Udaipur		22	0	1
236	Foot note			(h) Mean of 23 days	(Delete)
237	Dohad		19	+11.4	...
237	Bhuj (Aerodrome)		27	8	3
237	Rajkot (Aerodrome)		19	+9.1	...
238	Tiruchirapalli		14, 16	(Blank)	12, -0.1
239	Salem		16	-0.9	+0.9
239	Bijapur		24	6	0
239	Raichur		4	42.3	42.8
239	Hessan		5	(Blank)	1
239	Trivendrum (Aerodrome)		11	(Not clear)	438.2
239	Nainital		11	.0	99.0
239	Joshimath		10	7.0	7.9
239	Badrinath			Badrinath closed during winter months.	Badrinath (R)
239	Lokpal		10, 12	(Blank)	..., ...
240	Mercara		12	+3	+75.3
240	Ootacamund		21	10	0
240	Mannar		2	32.3	32.2
240	Ramgarh		20(b)	...	5
241	Gangtok		29	...	0
<u>Table III.</u>					
242	Dibrugarh (Mohanbari Aerodrome)	1130	21	4	5
243	Rangiya	0830	27	(Blank)	0
243	Silchar (Kumbhigram Aerodrome)	0530	27	(Blank)	7

Page No.	Station	Hour	Column	For	Read
Table III (Contd.)					
243	Silchar(Kumbhigrām Aerodrome)	0930	27	(Blank)	4
244	Midnapore	1730	7	26.1	36.1
245	Bolangir	1730	27	5	0
245	Ranchi (CWO)	1730	9	9.	9.7
245	Purnea	0830	18	1	31
245	Barbhanga	1730	15	3.9	2.9
245	Patna	1730	18	3	30
245	Patna (Aerodrome)	1730	13	1.6	1.5
246	Gonda	1730	7	37.6	37.9
246	Gorakhpur(PBO)	0230	5	994.2	991.2
248	Ambele (Aerodrome)	1730	17	(Blank)	8
249	Heading	-	-	(Vaisakha 10 Jyais- tha 9,1880 Saka)	(Vaisakha 11-Jyeistha 10, 1881 Saka)
249	Jammu (Aerodrome)	0530	8	18.7	17.8
250	Jaipur	0830	10,16	10.9(Blank)	10.7,0
250	Gwalior	0830	15	1.0	11.0
250	Foot note	-	-	Observations for 26 days.	*Observations for 26 days.
251	Sagar	1730	8,25	20.,10	21.4,16
251	Sidhi	1730	25	1	12
251	Kanker	1730	19	(Blank)	3
252	Deesa	0830	5	889.8	989.8
252	Baroda	1730	18	(Not clear)	16
252	Broach	1730	7	(Not clear)	39.1
252	Surat	0530	7	(Not clear)	28.4
252	Bhuj(Aerodrome)	-	3	(Not clear)	80
254	Gondia	1730	17	(Blank)	0
255	Coastal Andhra Pradesh	-	1	(Between stations Sironcha and Nellore)	Coastal Andhra Pradesh.
255	Rentachintala	1730	7	33.6	38.6
255	Gannavaram	0530	16	(Blank)	0
255	Masulipatam	0830	23	1	18
255	Nidadavolu	1730	22	(Blank)	5
255	Kakinade	1730	7	(Not clear)	34.3
255	Visakhapatnam	0230	18	2	24
255	Nizamebad	0830	14	-1.5	-0.5
255	Hyderabad(Begumpet Aerodrome)	0530	4	004.0	1004.0
255	Hyderabad(Begumpet Aerodrome)	1130	28	0	1
256	Cuddalore	0530	9	24.4	24.5
257	Bijepur	1730	15	.4	4.4
257	Belgaum	0830	2	8330	0830
257	Raichur	0830	6	-0.1	-0.7
258	Cochin(Naval Air Station)	0830	4	1008.8	1008.0
259	Mukteswar(Kumaon)	0830	8	10.4	10.1
259	Badrinath	-	1	Badrinath	Badrinath (R)
259	Badrinath	-	-	(Closed during winter months)	(Delete)

Page No.	Station	Hour	Column	For	Read
----------	---------	------	--------	-----	------

Table III (Contd.):

259	Lokpal	0830	9	8.9	-8.9
259	Dheramshala	-	1	(Not clear)	Dheramshala
259	Abu	0830	7	25.5	25.0
260	Hirakud	0830	2	*0830	0830
261	Gangtok	0830	20	(Blank)	2
261	Geyzing	0830	9	16.4	16.6

Page No.	Station	Time in I.S.T.	Ht. in Km.	Entry under column	Existing entry.	Correct entry.
----------	---------	----------------	------------	--------------------	-----------------	----------------

263	Darjeeling	-	-	Approximate time of flight (IST)	0830	0530
264	Amausi	2330	2.1	D	794	294
265	Amritsar	0530	Surface	v	0.2	0.1
265	Amritsar	0530	0.15 A.G	v	3.0	0.3
265	Amritsar	0530	7.2	D	216	276
265	Amritsar	1730	2.1	v	2.7	2.6
265	Anantapur	2330	0.15 A.G	V	9.6	9.5
265	Anantapur	2330	4.5	v	2.9	7.9
266	Baghdogra	1730	Surface	v	2.6	2.9
266	Bairagarh	1730	Surface	D	182	282
266	Bairagarh	1730	7.2	n	31	13
269	Dum Dum	2330	1.5	v	4.3	4.8
269	Gadag	1730	Surface	v	0.3	0.8
270	Gopalpur	1730	0.6	V	8.3	8.5
271	Gorakhpur	0530	6.0	D	227	327
271	Jabalpur	0530	3.0 to 6.0	n V v D	Values printed up slightly	
272	Jharsuguda	0530	1.5	v	4.4	4.9
274	Minicoy	2330	1.5	D	217	277
274	Mohanbari	0530	0.3 to 6.0	n V v D	Values for these levels printed one level below.	
274	Mohanbari	1130	0.3 to 3.0	n V v D	Values printed against levels from 0.6 to 3.6 may be read for levels from 0.3 to 3.0.	
274	Mohanbari	1730	3.0 to 6.0	n V v D	Values for these levels printed one level below.	
279	Bhagalpur	1730	10.5	D	270	305
279	Bhagalpur	1730	12.0	D	303	305

Radiosonde Data.

282	Allahabad	00 GMT	900 mb	Dew Point	278.1	278.4
282	Calcutta	00 GMT	140 mb	Min.	208	205
283	Madras	00 GMT	900 mb	Dew Point	298.8	289.8
283	Veraval	00 GMT	125 mb	Ht. gpm	15661	15461
283	Veraval	00 GMT	80 mb	Mean	201.1	202.1
285	Allahabad	12 GMT	Surface	Dew Point	246.4	286.4
286	Nagpur	12 GMT	700 mb	Dew Point	282.8	272.8
286	Nagpur	12 GMT	100 mb	Max.	205	206

TABLE I.—DIVISIONAL AND SUB-DIVISIONAL MEANS—MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud		1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud	
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
					6	7	8	9						6	7	8	9
Division									Division—Contd.								
1. Assam (Including Manipur, Tripura)	418.1 +134.6	148	29.6 -1.0	22.3 +0.2	85 +4	79	6.5 +1.1	5.4	9. Madhya Pradesh	31.8	179	41.1 +0.4	26.5 +0.5	33	20	2.6 +1.0	3.4
2. West Bengal	99.8 -68.7	59	36.9 +1.2	26.2 +1.2	73 +1	60	3.1 -0.8	2.9	10. Bombay	11.7	63	38.6 +1.0	27.1 +1.5	60	42	3.0 +0.6	2.9
3. Orissa	51.0 -29.5	63	37.2 +0.5	27.4 +0.8	69 -1	63	3.1 -0.4	4.5	11. Andhra Pradesh	25.8	65	39.3 -0.1	27.7 +0.1	60	46	3.8 +0.3	3.7
4. Bihar	69.2 +12.8	127	39.9 +1.7	26.0 +0.7	53 -1	38	2.1 -0.3	2.4	12. Madras State	60.5	110	35.8 -0.9	26.7 +0.6	68	58	4.8 +1.5	5.5
5. Uttar Pradesh	38.5 +20.7	216	40.4 +0.2	25.5 0	41 0	25	1.5 +0.3	1.5	13. Mysore	91.4	116	35.8 +0.4	24.1 +0.9	71	50	4.7 +1.2	5.5
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	26.2 +13.2	202	40.4 -0.1	24.1 -0.9	41 +7	27	1.7 +0.5	1.4	14. Kerala	413.8	164	32.0 +0.3	25.3 -0.3	83 +3	80	6.3 +1.1	6.9
7. Jammu and Kashmir	34.3 +1.3	104	19.3 -2.0	7.9 +1.3	54 -4	41	4.6 +1.4	4.5									
8. Rajasthan	14.1 +2.5	122	41.0 -0.1	26.5 -0.2	40 0	20	1.2 +0.4	1.3									
Sub-Division									Sub-Division—Contd.								
1. Bay Islands	260.0 -124.3	68	32.1 +1.7	25.0 +1.1	75 -3	81	5.5 -0.1	5.9	16. Madhya Pradesh (East)	28.1	109	41.1 +1.0	27.0 +1.1	34	22	2.7 +0.6	4.0
2. Assam (Including Manipur, Tripura)	418.1 +134.6	148	29.6 -1.0	22.3 +0.2	85 +4	79	6.5 +1.1	5.4	17. Gujarat	0.2	2	41.3 +1.9	27.6 +1.7	55	27	2.2 +0.4	1.1
3. Sub-Himalayan West Bengal	170.9 -110.1	61	33.1 -0.4	24.1 +0.7	77 +1	61	5.1 +1.5	2.7	18. Saurashtra and Kutch	0.4	5	38.3 +1.2	26.8 +1.4	72	57	2.2 +0.2	1.4
4. Gangetic West Bengal	73.1 -53.1	58	37.9 +1.7	26.8 +1.3	72 0	60	2.5 -1.5	3.0	19. Konkan	11.1	40	33.4 +1.1	27.9 +1.4	75	72	4.0 +0.2	3.4
5. Orissa	51.0 -29.5	63	37.2 +0.5	27.4 +0.8	69 -1	63	3.1 -0.4	4.5	20. Maharashtra (Including Marathwada)	27.4	119	39.5 +0.6	24.9 +1.5	52	32	3.0 +1.1	4.3
6. Bihar Plateau	53.9 -6.5	89	40.6 +1.9	26.2 +0.9	49 -3	36	1.9 -0.5	2.8	21. Vidarbha	2.9	20	42.8 +0.1	29.0 +1.3	37	20	3.3 +1.4	3.9
7. Bihar Plains	66.1 +29.3	180	38.9 +1.3	25.6 +0.5	59 +3	40	2.4 0	1.8	22. Coastal Andhra Pradesh	8.1	17	38.1 -0.5	28.0 +0.2	66	60	4.0 -0.1	4.1
8. Uttar Pradesh (East)	34.0 +14.9	178	41.0 +0.6	26.2 +0.4	42 -2	27	1.6 +0.4	1.4	23. Telangana	20.5	81	40.8 +0.7	27.1 +0.1	48	23	2.6 -0.2	3.1
9. Uttar Pradesh (West)	43.5 +27.2	267	39.7 -0.3	24.6 -0.4	39 +3	25	1.5 +0.2	1.8	24. Rayalaseema	66.6	170	40.1 -0.5	27.5 -0.3	66	43	5.3 +2.1	3.5
10. Punjab (India) (Including Delhi)	26.2 +13.2	202	40.4 -0.1	24.1 -0.9	41 +7	27	1.7 +0.5	1.4	25. Madras State	60.5	110	35.8 -0.9	26.7 +0.6	68	58	4.8 +1.5	5.5
11. Himachal Pradesh	34.1 ..	..	36.1 ..	18.9 ..	52 ..	37	2.3 ..	3.1	26. Coastal Mysore	205.2 +82.0	167	32.5 -0.1	25.4 -0.7	81 +5	73	6.3 +1.1	6.3
12. Jammu and Kashmir	34.3 +1.3	104	19.3 -2.0	7.9 +1.3	54 -4	41	4.6 +1.4	4.5	27. Interior Mysore (North)	40.9 +4.3	112	38.7 +0.4	25.2 +1.2	63 +2	44	4.0 +1.5	5.2
13. Rajasthan (West)	8.2 -1.6	84	41.5 0	26.1 0	42 +1	17	1.1 +0.3	1.0	28. Interior Mysore (South)	85.0 +13.9	86	34.1 +0.5	22.5 +1.1	76 +3	47	4.8 +0.8	5.4
14. Rajasthan (East)	21.5 +7.6	155	40.5 -0.1	26.8 -0.4	38 -1	22	1.2 +0.5	1.5	29. Kerala	413.8 +162.0	164	32.0 +0.3	25.3 -0.3	83 +3	80	6.3 +1.1	6.9
15. Madhya Pradesh (West)	34.5 +22.2	280	41.0 0	26.2 +0.1	33 -2	18	2.5 +1.3	2.9	30. Arabian Sea Islands	343.7 +198.3	236	32.6 +0.5	26.4 -0.3	81 +7	79	6.3 +1.9	7.4

Note.—The entries in the second line for each division and sub-division indicate departures from normal.

*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Table with columns for Division and station, Air temperature in °C (Mean maximum, Departure from normal, Highest, Date, Mean minimum, Departure from normal, Lowest, Date), Rainfall in millimetres (Total fall during 0830-1730 hours, Total fall in 24 hours, Departure from normal, Heaviest fall in 24 hours, Date), No. of rainy days (2.5 mm. or more) (Total in the month, Departure from normal), Wind speed, km. per hour (Mean between 0830-1730 hours, Mean 24 hours, Departure from normal), and Weather phenomena—No. of days with (Precipitation (0.1 and 0.2mm), Precipitation (0.5mm or more), Snow or sleet, Hail, Thunder heard, Fog, Dust-storm, Ground frost, Gale, Squall, Line squall).

*Data given as addenda in December 1959 issue.

(R) Register not received.

Division and station	Air temperature in °C								Rainfall in millimetres						No. of rainy days (2.5mm. or more)			Wind speed, km. per hour			Weather phenomena—No. of days with										
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2mm.)	Precipitation (0.3mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														20a	20b
Hill Stations excluding Kashmir—(Contd.)																															
Dharamshala	30.6	...	34.9	23,24	21.1	...	13.4	19	76.4	83.8	...	31.2	28	5	...	6.0	4.5	...	0	5	0	0	11	0	0	0	0	0	0	0	0
Abu	31.6	+0.5	36.1	22	21.8	+0.1	18.6	28	0	0	-23.6	0	...	0	-1.3	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0
Pachmarhi	36.0	+0.6	38.9	26	24.1	+0.2	20.0	16	0	62.7	+47.0	30.8	31	2	+0.4	10.9	8.8	+0.3	0	3	0	0	1	0	0	0	0	1	0	0	
Mahabaleshwar	28.9	+0.1	32.8	1	18.8	+0.6	14.7	3	19.0	64.5	+23.9	16.0	3	7	+4.6	13.3	12.5	-1.2	1	9	0	1	16	12	0	0	0	0	0	0	
Nandi Hills	28.4	...	31.0	1	17.8	...	15.6	24,25,26	...	72.0	...	31.0	20	5	...	...	15.9	...	0	5	0	0	3	7	0	0	0	0	0	0
Mercara	27.4	+0.7	34.1	1	18.6	+0.5	15.9	23,24	132.4	207.6	+3	69.6	31	10	+1.5	10.1	8.8	+2.7	0	13	0	0	0	0	0	0	0	0	0	0	
Korlaikanal	20.3	+0.1	22.3	9	12.1	-0.5	10.0	1	163.9	300.4	+138.6	58.2	17	16	+5.4	11.1	11.5	+0.1	1	22	0	0	16	2	0	0	0	0	0	0	
Ootacamund	22.4	+1.1	25.1	2	10.7	-0.7	9.4	10	51.4	99.2	-60.6	21.2	28	10	-2.0	5.3	3.9	-0.4	0	17	10	0	5	0	0	0	0	0	0	0	
Coonoor	24.3	-0.3	25.8	27	15.5	+0.5	11.0	12	...	162.3	+56.4	109.0	16	7	-0.7	...	4.6	-0.7	1	9	0	0	3	0	0	0	0	0	0	0	
Sikkim																															
Thangu . . . . .	...	...	...	...	...	...	...	...	...	73.4	...	9.2	25	10	...	...	...	...	3	22	...	...	...	...	...	...	...	...	...
Chungthang . . . . .	...	...	...	...	...	...	...	...	...	271.6	...	35.8	13	18	...	...	...	...	0	20	...	...	...	...	...	...	...	...	...
Lachen* . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tibet																															
Yatung (Chumbi)(R) . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lhasa . . . . .	...	...	...	...	...	...	...	...	...	Closed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ceylon																															
Colombo	30.8	-0.1	31.8	10	24.9	-0.4	22.5	31	71.2	345.8	+9.5	32.3	17	17	+2.9	...	...	...	0	26	0	0	1	0	0	0	0	0	0	0
Trincomalee	33.9	-0.1	36.3	8	26.4	+0.7	24.6	25	44.7	68.5	-0.4	8.7	25	7	+3.6	...	...	...	0	11	0	0	2	0	0	0	0	0	0	0
Batticaloa	32.5	...	34.5	30	25.8	...	24.5	26	7.7	27.2	...	7.6	14	4	...	...	...	...	0	7	0	0	6	0	0	0	0	0	0	0
Hambantota	30.6	+0.2	33.3	21	25.4	+0.2	23.4	31	19.0	115.7	-2.4	27.4	11	11	+4.2	...	...	...	0	15	0	0	2	0	0	0	0	0	0	0
Mannar	32.3	...	35.1	10	27.0	...	25.2	16	99.6	197.2	...	52.6	17	6	...	...	...	...	0	13	0	0	10	0	0	0	0	0	0	0
Hydrometeorological Observatories																															
Dandard Catchment																															
Bokaro	41.4	...	44.3	16	25.7	...	18.3	9	10.6	14.9	...	5.8	12,30	3	...	13.7	9.0	...	0	4	0	0	6	0	0	0	0	0	0	0	
Hazaribagh	38.3	...	40.7	14	24.8	...	21.2	28	42.8	44.4	...	24.8	27	3	...	6.2	3.4	...	0	4	0	0	1	0	0	0	0	0	0	0	
Tilaiya	39.5	...	42.8	16	27.0	...	23.7	28	12.0	10.4	...	8.6	27	1	...	15.9	11.4	...	0	3	0	0	6	0	0	0	0	0	0	0	
Ramgarh	41.0	...	44.1	14	24.9	...	19.9	31	56.2	136.6	...	76.4	28	4	...	6.4	3.4	...	0	...	0	2	1	0	0	0	0	0	1	0	
Panchet Hills	41.5	...	45.6	16	27.7	...	24.2	30	32.8	25.0	...	13.2	30	2	...	12.1	9.6	...	0	3	0	0	4	0	0	0	0	0	0	0	
Durgapur	40.8	...	45.1	5,16	26.4	...	21.4	30	0.4	57.0	...	37.5	30	4	...	14.8	14.5	...	0	6	0	0	0	0	0	0	0	0	0	0	
Mahanadi Catchment																															
Baramul	42.1	...	45.0	17	26.9	...	23.4	9	0	34.4	...	33.4	29	1	...	6.4	4.0	...	0	2	0	0	16	0	0	0	0	0	2	0	
Hirakud	42.5	...	44.2	1,25	29.4	...	25.3	30	0	4.5	...	3.4	30	1	...	...	...	...	0	2	0	0	0	0	0	0	0	0	0	0
Kuljrawant . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...	...	...	...	...	...	...	...
Sonepur	43.1	...	44.8	28	33.2	...	28.9	4	...	2.2	...	2.2	31	0	...	...	8.1	...	0	1	...	...	...	...	...	...	...	...	...
Ginabhar	41.6	...	43.3	5	25.7	...	22.0	30	...	15.1	...	10.7	28	2	...	...	...	...	0	2	0	0	0	0	0	0	0	0	0	0
Bhimkund	39.2	...	43.7	6	24.4	...	20.9	30	125.8	177.1	...	45.0	28	11	...	6.0	4.3	...	0	11	0	0	15	0	0	0	0	0	0	0	
Narada Catchment																															
Punasa	43.4	...	48.1	14	27.2	...	22.4	8	0	4.3	...	4.3	24	1	...	...	...	...	0	1	0	0	0	0	0	0	0	0	0	0
Bagra Tawa	42.5	...	46.4	27	27.7	...	20.4	30	30	79.1	...	57.8	30	3	...	9.6	6.5	...	0	3	0	0	3	0	0	0	0	0	0	0	
Thikri	43.0	...	46.7	13	28.2	...	23.7	8	0	0	...	0	...	0	...	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0
Sabarnati Catchment																															
Jhadol	38.1	...	41.6	23	17.4	...	11.7	2	...	0	...	0	...	0	...	...	...	...	0	0	...	...	...	...	...	...	...	...	...	...
Dharoi	41.2	...	44.2	22	27.4	...	23.1	5	0	0	...	0	...	0	...	...	...	...	0	0	...	...	...	...	...	...	...	...	...
Ganga Catchment																															
Mukhim	22.8	...	29.6	13	16.1	...	11.1	2	48.9	56.0	...	29.4	27	5	...	...	...	...	0	7	0	2	8	4	0	0	0	0	0	0
Tehri	37.2	...	40.3	24	20.4	...	17.6	18,20	16.3	16.1	...	8.4	27	3	...	6.7	4.1	...	0	3	0	2	8	0	1	0	0	0	0	0	
Gandak Catchment																															
Gorkha	29.8	...	32.2	23	19.2	...	15.3	1	32.1	194.6	...	75.4	12	12	...	...	...	...	0	12	...	...	...	...	...	...	...	...	...	...
Pokhara	30.9	...	34.4	4,9	19.3	...	17.1	27,29	96.2	277.1	...	74.2	27	14	...	...	...	...	0	17	...	...	...	...	...	...	...	...	...	...
Nawakot	32.0	...	36.3	22	21.0	...	17.6	31	9.5	70.2	...	21.6	29	7	...	...	...	...	0	11	...	...	...	...	...	...	...	...	...	...
Jomosom	20.8	...	23.9	16	...	...	...	...	6.3	22.0	...	15.4	1	2	...	...	...	...	0	4	...	...	...	...	...	...	...	...	...	...
Timure	26.6	...	30.2	9	15.7	...	12.9	30	8.7	51.1	...	26.7	26	6	...	...	...	...	0	9	...	...	...	...	...	...	...	...	...	...
Gogra Catchment (Trans Himalayan Region)																															
Dalich	31.0	...	34.0	16	19.6	...	15.7	6	23.8	70.6	...	19.3	28	5	...	...	...	...	0	9	...	...	...	...	...	...	...	...	...	...
Gogra Catchment																															
Dandeldhura	27.0	...	30.3	14	...	...	...	...	38.2	67.3	...	33.4	27	3	...	...	...	...	0	5	0	0	6	3	0	0	0	0	0	0
Butwal	38.1	...	43.3	18,19	25.4	...	20.9	30	19.1	113.6	...	72.4	27	2	...	...	...	...	0	4	...	...	...	...	...	...	...	...	...	...

*Data not reliable.

†Data Not available.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—MAY, 1959 (VAISAKHA 11—JYASTHA 10, 1881 SAKA) 241

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with											
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20(a)	20(b)	21	22	23	24	25	26	27	28	29	
Hydrometeorological Observatories—Contd.																														
Bagmati Catchment Katmandu*																														
Kosi Catchment																														
Chautara	28.5	...	32.9	18	18.2	...	14.7	29	17.0	121.0	...	39.4	26	10	...	...	...	...	0	13	...	...	...	...	...	...	...	...	...	...
Okhaldunga	24.9	...	28.3	22	15.9	...	13.2	30	53.9	120.2	...	37.0	27	7	...	9.2	7.2	...	0	12	0	0	6	0	0	0	0	0	0	0
Barahshetra	33.0	...	38.4	21	23.5	...	21.1	28	19.5	41.9	...	19.2	24	5	...	12.9	7.2	...	3	6	0	5	0	0	0	0	0	0	0	0
Angbung	28.5	...	31.7	4,18	17.3	...	14.9	23	46.0	182.0	...	36.0	5	11	...	...	...	...	0	16	...	...	...	...	...	...	...	...	...	...
Taplejung	23.6	...	26.6	4	14.7	...	13.1	30	84.8	271.3	...	45.6	14	17	...	...	...	...	1	21	0	1	12	0	0	0	0	0	0	0
Taplethok	28.2	...	30.6	21	16.7	...	14.8	31	66.0	283.2	...	35.2	28	20	...	...	...	...	1	23	...	...	...	...	...	...	...	...	...	...
Wallung Chung Gola	14.1	...	16.8	4	5.5	...	4.0	20	61.7	128.5	...	14.6	28	13	...	...	...	...	0	20	...	...	...	...	...	...	...	...	...	...
Bhojpur	24.0	...	28.5	22	16.5	...	11.2	10	41.3	103.4	...	23.6	27	9	...	...	...	...	0	11	...	...	...	...	...	...	...	...	...	...
Chainpur	27.7	...	30.8	4	17.6	...	15.6	10	96.6	135.4	...	33.4	10	9	...	...	...	...	0	14	...	...	...	...	...	...	...	...	...	...
Tista Catchment																														
Gangtok	21.0	...	23.8	3,22	13.8	...	12.2	5,17	213.3	620.8	...	96.1	6	27	...	6.1	5.2	...	0	31	0	1	13	9	0	0	0	0	0	0
Geyzing	24.2	...	27.9	22	15.7	...	14.0	27	43.4	...	...	33.0	23	13	...	...	...	...	0	19	...	...	...	...	...	...	...	...	...	...

*Data included under "Hill Stations".

(a) Mean of 30 days.

Table with 28 columns: Division and station, Hour of observation I.S.T., Height of barometer, Mean pressure in millibars, Mean temperature in °C, Vapour pressure in mba, Relative humidity %, Cloud amount (Oktas), Mean wind speed in km. per hour, Wind direction, and No. of observations.

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed ¹ (km. p.h.)		No. of observations										
			At mean sea level or height in g.p.m. of nearest isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Orissa—(Contd.) Koraput	0830	913	1489.3	907.8	...	25.9	20.8	18.0	20.8	62	...	2.6	...	9.5	0	1	30	1	0	0	0	0	25	0	5	0	0
	1730	"	1469.9	904.9	...	31.0	21.6	16.7	18.8	45	...	3.8	...	10.9	0	3	28	0	1	0	1	2	13	2	12	0	0
Titilagarh	0830	211	1004.0	981.2	...	34.0	23.8	18.5	21.1	42	...	2.6	...	4.0	0	0	27	0	0	0	1	12	12	2	0	4	0
	1730	"	998.3	975.8	...	39.0	23.6	14.0	16.6	22	...	2.5	...	3.5	0	0	29	3	3	0	0	11	11	0	1	2	0
Bolangir	0830	190	1002.9	982.0	...	32.9	28.4	26.6	35.0	72	...	2.8	...	7.3	0	0	31	2	0	5	6	7	8	0	3	0	0
	1730	"	998.9	978.6	...	40.5	31.5	28.0	38.8	52	...	4.6	...	6.0	0	0	31	10	0	1	1	4	4	0	11	5	0
Angul	0830	139	1003.9	988.6	-0.4	31.8	25.1	21.9	26.3	57	-9	3.5	0	5.4	0	1	26	1	8	1	7	2	7	0	1	4	0
	1730	"	998.1	983.2	...	39.1	23.6	13.4	16.3	25	...	4.6	...	13.2	0	6	25	0	1	0	9	5	10	3	3	0	0
Keonjhar	0830	463	1003.2	950.3	...	31.2	24.7	21.9	26.3	60	...	2.6	...	6.3	0	0	29	1	4	2	6	2	3	8	3	2	0
	1730	"	988.3	946.3	...	35.6	25.1	20.1	24.1	44	...	4.1	...	4.3	0	0	31	1	4	4	4	5	4	6	3	0	0
Sambalpur	0830	148	1003.1	987.2	-0.7	35.9	24.8	18.8	22.2	38	-10	1.9	-0.5	7.4	0	0	26	1	0	1	0	6	11	5	2	5	0
	1730	"	997.8	981.9	...	38.9	28.8	23.5	31.2	49	...	3.0	...	2.4	0	0	13	1	2	0	0	2	4	3	1	18	0
Jharsuguda	0230	230	1000.1	974.9	...	30.6	23.3	19.2	22.8	53	...	1.8	...	5.7	0	0	22	0	1	4	4	7	5	0	1	9	0
	0530	"	1001.5	976.1	...	28.8	23.3	19.7	24.2	61	...	2.8	...	4.5	0	0	20	1	1	2	5	6	3	0	1	11	1
	0830	"	1002.9	977.9	...	34.1	25.1	20.5	24.4	48	...	1.9	...	9.1	0	0	27	0	2	1	1	8	12	1	2	4	0
	1130	"	1001.4	976.8	...	39.3	26.1	18.8	23.1	34	...	1.5	...	9.7	0	0	30	2	0	2	1	5	10	9	1	1	0
	1730	"	996.3	972.5	...	40.0	25.1	16.1	19.4	28	...	3.3	...	8.7	0	0	28	0	1	0	1	8	3	13	2	3	0
	2330	"	1000.4	975.3	...	32.2	23.6	18.6	22.0	48	...	2.3	...	8.8	0	1	24	0	1	5	1	5	11	1	1	6	0
Bihar Plateau Jamshedpur	0830	129	1002.9	988.7	-0.6	32.4	24.7	20.7	23.9	52	-6	2.0	-0.8	6.3	0	0	27	0	3	3	1	0	5	11	4	4	0
	1730	"	997.5	983.7	...	37.7	23.9	15.4	18.4	33	...	3.5	...	6.8	0	0	25	1	2	5	2	1	5	6	3	6	0
Jamshedpur (F. B. O.)	0530	145	1001.5	985.4	...	28.3	23.5	21.0	25.0	66	...	3.0	...	1.9	0	0	16	1	3	2	4	2	2	2	0	15	0
	0830	"	1002.7	986.7	...	33.5	24.8	20.3	24.1	49	...	2.4	...	5.1	0	0	30	1	4	2	3	2	13	2	3	1	0
	1130	"	1001.2	985.2	...	38.8	24.7	16.1	19.6	31	...	1.9	...	5.4	0	0	30	3	6	1	3	2	7	7	1	1	0
	1730	"	997.9	982.3	...	37.8	23.7	15.2	17.7	32	...	4.6	...	4.9	0	0	29	4	7	0	3	4	3	1	7	2	0
	2330	"	1000.8	984.7	...	31.3	24.2	20.2	24.3	56	...	2.0	...	4.9	0	0	29	2	8	3	5	6	4	0	1	2	0
	0830	226	1003.1	978.4	-0.5	33.0	27.0	24.4	30.7	63	+4	2.3	-0.2	2.2	0	0	21	0	3	0	3	0	14	0	1	10	0
Chaibasa	1730	"	997.6	973.5	...	37.8	28.4	24.3	31.1	51	...	4.5	...	2.0	0	0	17	0	6	0	4	0	5	0	2	14	0
	0830	655	1002.8	932.6	-0.1	31.0	21.3	15.2	18.1	43	-4	1.5	-0.7	0.5	0	0	3	0	0	0	0	1	2	0	0	28	0
Ranchi	1730	"	998.2	928.8	...	34.2	20.9	11.6	15.0	31	...	2.1	...	0.2	0	0	2	0	0	0	1	1	0	0	0	29	0
	0530	652	1001.1	930.3	...	25.8	18.5	13.0	15.7	51	...	2.7	...	3.2	0	0	15	0	0	2	0	3	7	0	3	14	0
Ranchi (G. W. O.)	0830	"	1001.6	932.1	...	31.8	20.4	12.2	15.7	37	...	1.9	...	7.7	0	0	23	3	0	1	0	11	6	1	1	6	0
	1130	"	1000.4	931.8	...	35.6	20.7	9.7	13.4	27	...	2.0	...	9.4	0	0	29	4	2	0	0	8	8	5	2	2	0
	1730	"	996.3	927.9	...	34.9	20.9	9.7	14.4	37	...	4.0	...	8.1	0	0	21	1	0	2	0	3	2	4	8	1	1
	0830	221	1002.0	977.9	-1.2	34.8	22.9	15.6	18.2	34	-6	1.8	+0.4	2.8	0	0	21	2	2	5	0	1	0	9	2	10	0
Laltonganj	1730	"	997.7	973.9	...	38.7	22.8	12.1	14.1	24	...	2.6	...	4.5	0	0	29	7	5	0	0	0	0	8	9	2	0
	0830	611	1001.8	936.5	-0.4	32.5	20.5	11.9	15.4	35	-10	1.7	-0.7	6.8	0	0	29	3	0	1	2	7	4	6	6	2	0
Hazaribagh	1730	"	997.2	932.8	...	35.7	20.7	9.5	13.4	28	...	2.1	...	10.2	0	0	31	6	1	3	1	1	0	0	19	0	0
	0830	257	1002.3	974.2	...	32.7	23.6	18.2	31.6	47	...	2.0	...	3.6	0	0	28	1	2	3	5	2	5	9	1	3	0
Dhanbad	1730	"	997.6	969.9	...	36.1	22.7	13.6	16.5	33	...	2.1	...	3.3	0	0	26	4	3	1	1	2	1	5	9	5	0
	0830	149	1003.5	986.8	-1.1	30.7	25.2	23.9	27.5	64	+2	1.9	-0.8	5.1	0	0	31	3	2	7	9	0	5	4	1	0	0
Dumka	1730	"	1000.8	984.8	...	36.3	27.3	22.9	28.9	51	...	1.8	...	6.7	0	0	31	5	1	7	4	0	4	6	4	0	0
	0830	38	1004.1	999.8	-1.3	28.5	24.1	21.8	26.3	70	-2	3.4	0	7.3	0	0	1	0	7	22	1	0	1	0	0	0	0
Bihar Plains Purnea	1730	"	999.4	995.3	...	32.9	24.9	20.4	24.9	53	...	1.5	...	5.8	0	0	28	0	6	17	0	0	0	5	0	3	0
	0830	61	1004.1	997.3	...	28.5	24.8	21.5	25.6	67	...	4.1	...	14.0	0	2	29	0	1	30	0	0	0	0	0	0	0
Forbesganj	1730	"	999.3	992.7	...	32.7	24.7	20.3	24.6	52	...	2.2	...	10.5	0	1	30	0	0	26	1	0	0	3	1	0	0
	0830	49	1003.8	998.1	-1.0	29.1	24.2	21.6	26.2	67	+3	2.8	+0.4	3.5	0	0	31	0	1	18	9	0	2	1	0	0	0
Darbhanga	1730	"	999.0	993.6	...	34.5	24.9	19.6	23.8	45	...	1.8	...	3.9	0	0	29	2	5	7	4	0	5	5	1	2	0
	0830	66	1003.3	995.9	-0.9	29.5	24.5	22.1	26.7	67	+4	1.5	-0.3	2.1	0	0	12	0	0	10	0	0	0	2	0	19	0
Motihari	1730	"	999.5	992.2	...	33.7	25.6	21.3	26.3	53	...	0.7	...	0.7	0	0	7	0	0	2	0	0	0	5	0	24	0
	0830	53	1002.8	996.9	-1.2	31.0	23.7	19.4	23.2	56	-2	1.9	+0.1	11.7	0	2	29	0	7	16	1	0	1	4	2	0	0
Patna																											

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mba	Relative humidity%	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour.	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g. p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bihar Plains—(Contd.) Gaya	0230	116	1000.0	987.1	...	28.9	21.0	15.3	18.5	47	...	1.3	...	6.7	0	3	17	0	2	4	5	0	7	0	2	11	0
	0530	"	1001.0	987.9	...	27.2	20.7	16.2	19.0	53	...	1.9	...	6.7	0	3	16	0	1	6	3	1	6	1	1	12	0
	0830	"	1002.4	989.6	-0.7	34.2	23.2	16.3	19.3	40	+4	2.0	+0.4	12.9	0	7	20	0	2	4	4	1	5	6	5	4	0
	1130	"	1001.5	988.9	...	39.1	24.1	14.6	17.7	28	...	1.9	...	16.2	0	9	19	1	2	6	1	0	1	5	12	3	0
	1730	"	997.9	985.3	...	39.3	23.9	13.8	17.0	27	...	1.7	...	19.6	0	15	16	5	4	6	0	0	0	3	13	0	0
	2330	"	1000.6	987.7	...	31.1	21.9	15.6	18.9	43	...	1.1	...	8.9	0	3	20	0	1	9	5	1	0	3	4	8	0
Jamui	0330	82	1002.6	993.3	...	32.6	24.8	20.6	24.9	54	...	2.1	...	6.5	0	0	29	0	2	19	4	0	0	0	4	2	0
	1730	"	998.1	989.0	...	37.2	24.9	18.2	21.5	39	...	3.5	...	9.0	0	1	29	0	5	17	5	0	3	0	0	1	0
Jhagalpur	0530	49	1001.8	996.5	...	26.1	23.3	21.4	26.4	80	...	2.6	...	8.6	0	0	29	0	4	17	4	2	0	1	1	2	0
	0830	"	1003.5	998.1	...	30.1	24.8	21.7	27.0	65	...	2.3	...	9.9	0	1	28	0	7	12	3	0	1	2	4	2	0
	1130	"	1002.8	997.4	...	34.8	25.4	20.2	24.8	49	...	1.8	...	11.5	0	3	28	2	6	6	3	0	0	2	12	0	0
	1730	"	998.7	993.4	...	35.5	24.9	19.0	22.8	44	...	1.9	...	8.2	0	0	30	0	4	11	10	0	2	1	2	1	0
Sabour	2330	"	1001.4	995.9	...	29.1	24.3	21.6	26.5	68	...	2.8	-1.0	10.8	0	1	28	0	2	21	3	0	0	2	1	2	0
	0830	27	1003.4	999.2	-0.8	29.9	25.7	23.5	28.4	73	+9	2.8	-1.0	10.8	0	1	28	2	1	12	1	0	0	4	11	0	0
Uttar Pradesh (East) Gonda	1730	"	998.7	994.6	...	35.5	26.6	22.1	27.4	52	...	2.2	...	11.0	0	3	28	0	0	18	0	0	0	2	6	5	0
	0830	110	1002.7	990.5	...	31.5	24.1	19.7	22.8	53	+6	1.2	-0.3	6.1	0	0	26	0	0	5	0	0	0	5	11	10	0
1730	"	998.2	986.3	...	37.6	25.4	19.1	22.0	36	...	1.3	...	4.5	0	0	21	0	0	5	0	0	0	5	11	10	0	
	0830	99	1002.5	991.5	...	30.3	23.4	19.4	23.0	35	...	1.5	...	9.4	0	1	26	0	0	12	13	0	1	1	0	4	0
Nautanwa	1730	"	998.5	987.7	...	36.7	22.8	13.0	16.4	30	...	1.0	...	7.5	0	1	28	0	3	5	6	1	7	6	1	2	0
	0830	77	1003.7	995.0	-0.4	32.8	24.5	19.5	23.8	51	-7	1.5	+0.1	3.7	0	0	31	3	1	15	0	7	0	8	2	0	0
Gorakhpur	1730	"	998.6	990.4	...	37.4	25.7	18.1	22.8	37	...	1.5	...	3.3	0	0	29	1	0	9	0	0	0	19	0	2	0
	0830	"	1003.7	995.0	-0.4	32.8	24.5	19.5	23.8	51	-7	1.5	+0.1	3.7	0	0	31	3	1	15	0	7	0	8	2	0	0
Gorakhpur (P.B.O.)	0230	78	999.7	994.2	...	28.1	20.7	15.0	19.2	51	...	1.0	...	10.0	0	1	27	2	8	7	1	0	2	6	2	3	0
	0530	"	1000.5	991.7	...	26.2	20.8	16.6	20.3	61	...	2.0	...	7.0	0	0	27	1	13	5	0	2	1	4	1	4	0
	1130	"	1001.8	993.3	...	35.7	23.7	16.3	19.4	37	...	1.8	...	11.5	0	5	26	0	3	8	7	3	3	6	1	0	0
	2330	"	1000.1	991.4	...	29.8	21.6	15.3	19.1	48	...	1.6	...	8.7	0	0	28	2	2	10	2	1	5	4	2	3	0
Azamgarh	0830	78	1001.8	993.6	...	31.9	27.0	25.0	31.4	69	...	1.8	...	...	0	0	31	0	0	14	0	0	0	17	0	0	0
	1730	"	997.7	989.5	...	37.4	30.6	27.9	38.1	61	...	1.2	...	...	0	0	21	0	0	4	0	0	0	17	0	10	0
Ballia	0830	64	1002.8	995.7	...	28.4	21.5	17.7	19.8	55	...	1.1	...	5.8	0	0	25	0	11	5	2	0	4	3	0	6	0
	1730	"	999.7	992.8	...	39.1	25.3	18.3	21.6	35	...	0.1	...	8.4	0	0	30	1	8	2	4	0	1	5	9	1	0
Varanasi (Banaras)	0830	76	1001.9	993.3	-1.6	32.3	22.3	15.2	18.7	41	-4	1.9	+0.5	7.6	0	0	28	1	5	5	2	0	7	6	2	3	0
	1730	"	995.0	987.1	...	39.3	22.8	10.6	14.1	23	...	1.5	...	11.5	0	1	28	3	4	1	0	0	1	12	8	2	0
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1001.3	991.9	...	26.7	20.7	16.5	19.2	58	...	2.2	...	8.0	0	0	29	0	2	8	1	3	9	4	2	2	0
	0830	"	1003.0	993.6	...	32.9	23.5	17.8	21.0	46	...	2.1	...	13.9	0	3	28	0	3	9	1	1	8	9	0	0	0
	1130	"	1002.6	993.3	...	37.9	25.2	17.6	21.2	36	...	1.9	...	17.6	0	12	17	1	5	2	0	0	0	10	11	2	0
	1730	"	999.0	989.7	...	38.5	24.9	16.6	20.6	33	...	1.9	...	17.6	0	12	17	1	5	2	0	0	0	10	11	2	0
	2330	"	1001.4	991.9	...	30.3	22.1	16.8	20.2	49	...	1.1	...	10.1	0	3	22	0	2	7	2	1	3	5	5	6	0
Allahabad (Bamrauli)	0230	98	999.8	988.8	...	28.9	19.7	12.4	15.5	40	...	2.1	...	6.3	0	1	23	2	3	3	3	2	2	6	3	7	0
	0530	"	1000.5	989.8	...	27.0	19.2	12.5	14.8	44	...	2.7	...	4.6	0	0	25	0	1	4	5	2	5	6	2	6	0
	0830	"	1002.1	991.4	-1.3	33.8	21.5	12.4	15.9	33	-3	2.1	+0.7	9.3	0	2	27	0	5	3	0	4	5	9	3	2	0
	1130	"	1001.7	991.1	...	39.3	22.8	10.8	14.1	23	...	2.0	...	11.5	0	3	27	5	3	3	0	3	0	7	9	1	0
	1730	"	998.0	987.5	...	39.7	22.5	10.1	13.2	21	...	2.1	...	11.6	0	0	31	6	4	2	0	0	0	8	4	0	0
Sultanpur	2330	"	1000.3	989.4	...	31.1	20.6	12.7	15.6	37	...	2.1	...	5.4	0	1	15	1	1	7	1	0	2	2	2	15	0
	0830	97	1002.6	991.9	...	32.9	22.1	15.0	17.5	39	...	2.3	...	5.0	0	0	30	3	6	6	0	1	2	9	3	1	0
	1730	"	999.3	988.8	...	38.6	22.5	11.1	14.1	24	...	1.2	...	4.2	0	0	27	0	1	5	0	0	0	21	0	4	0
	0830	102	1002.1	990.8	...	31.0	22.0	15.9	19.3	45	...	1.9	...	6.2	0	0	29	1	7	9	3	0	0	7	2	2	0
	1730	"	999.0	988.3	...	37.1	23.4	14.6	18.0	30	...	1.8	...	6.6	0	0	26	1	1	3	3	0	0	17	1	5	0
Bania	0830	121	1002.1	989.0	...	34.4	23.8	17.6	21.0	39	...	1.1	...	3.8	0	0	30	0	1	0	3	0	18	0	8	1	0
	1730	"	998.5	985.4	...	40.9	25.9	17.7	21.5	28	...	1.5	...	3.8	0	0	30	0	1	0	3	0	18	0	8	1	0
Fatehpur?	0830	114	1001.9	989.4	...	32.9	22.1	15.3	17.5	38	-6	1.8	+0.5	7.2	0	0	28	3	2	4	5	0	3	6	5	3	0
	1730	"	998.0	985.7	...	39.8	23.9	14.0	16.8	25	...	1.2	...	10.3	0	2	29										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer sister over mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations																			
			At mean sea level or height in g. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable										
																												Wind direction									
																												19	20	21	22	23	24	25	26	27	28
Uttar Pradesh (East)—Contd.																																					
Lucknow	0830	111	1002.9	990.6	-0.3	31.5	23.0	17.3	20.7	44	+1	1.0	-0.2	3.2	0	0	24	0	2	7	2	1	0	11	1	7	0										
	1730	"	998.8	987.1	...	38.3	23.7	14.6	17.1	28	...	0.6	...	6.2	0	0	29	1	1	3	2	1	0	21	0	2	0										
Lucknow (Amausi Aerodrome)	0230	128	999.4	985.1	...	26.5	19.6	14.5	16.9	51	...	1.5	...	6.3	0	2	23	1	0	6	2	2	3	8	3	6	0										
	0530	"	1000.4	986.0	...	25.7	19.3	14.7	17.0	54	...	2.0	...	4.9	0	1	19	0	1	5	2	0	2	7	3	11	0										
	0830	"	1002.0	987.9	-1.2	32.2	22.5	16.9	19.3	43	+7	1.8	+0.6	11.2	0	2	26	0	2	10	0	0	2	8	6	3	0										
	1130	"	1001.7	987.8	...	37.2	23.5	14.1	18.0	32	...	2.1	...	16.0	0	8	23	1	1	8	4	1	2	6	8	0	0										
	1730	"	997.8	984.1	...	30.9	23.4	12.8	16.0	25	...	1.4	...	13.8	0	7	22	1	1	6	0	0	0	9	12	2	0										
	2330	"	1000.1	985.9	...	28.7	20.8	15.8	18.3	48	...	1.3	...	6.5	0	2	19	1	1	4	1	2	4	5	3	10	0										
Hardoi	0830	142	1002.2	986.5	...	30.6	22.1	17.0	19.8	47	...	1.0	...	6.1	0	0	26	4	0	6	4	2	2	5	3	5	0										
	1730	"	998.0	982.7	...	38.3	24.6	16.3	19.3	31	...	0.7	...	5.0	0	0	26	3	0	3	0	0	0	16	4	5	0										
Lakhimpur Kheri	0830	147	1001.8	985.3	...	26.9	21.2	17.4	20.5	58	...	0.9	...	3.4 (d)	0	0	16	0	1	6	4	0	0	8	0	12	0										
	1730	"	997.7	981.8	...	37.3	23.7	15.6	18.1	32	...	1.3	...	3.5 (c)	0	0	24	0	1	5	1	0	0	22	0	2	0										
Bahraich	0830	124	1002.3	989.2	-0.4	31.1	22.0	15.8	18.9	42	-9	1.8	+0.6	10.5	0	2	29	0	0	19	1	0	0	10	1	0	0										
	1730	"	995.9	982.3	...	35.6	23.0	13.3	17.8	30	...	2.0	...	7.4	0	0	31	0	0	7	0	0	0	24	0	0	0										
Uttar Pradesh (West)																																					
Orai	0830	141	1003.8	988.4	...	35.5	23.8	17.4	20.1	38	...	2.1	...	4.7	0	0	30	2	0	1	2	3	6	2	11	1	0										
	1730	"	998.6	983.6	...	39.6	25.1	17.5	19.9	30	...	1.6	...	4.1	0	0	30	3	2	0	0	1	4	3	17	1	0										
Jhansi	0830	251	1002.4	974.9	-1.2	31.7	20.8	13.3	15.3	36	+6	1.9	+0.7	2.7	0	0	26	5	0	1	2	3	5	10	0	5	0										
	1730	"	998.2	971.2	...	40.7	23.9	13.3	16.0	22	...	1.9	...	3.1	0	0	29	4	2	2	0	0	4	6	11	2	0										
Agra	0830	169	1002.5	984.0	-0.5	33.0	24.0	19.1	22.4	46	+19	1.2	+0.1	2.4	0	0	13	1	1	0	2	1	2	0	6	18	0										
	1730	"	998.4	980.3	...	39.5	27.2	21.6	26.1	38	...	1.5	...	2.9	0	0	22	0	2	0	1	1	6	1	11	9	0										
Agra (Aerodrome)	0530	168	1000.9	981.7	...	25.5	19.0	13.8	16.7	50	...	1.6	...	...	0	1	14	1	0	3	2	0	2	5	2	16	0								
	0830	"	1002.5	983.7	...	30.9	20.8	14.3	16.6	38	...	1.4	...	...	0	4	24	2	1	1	3	1	5	8	7	3	0								
	1130	"	1002.1	983.7	...	38.0	23.1	13.2	15.5	27	...	1.4	...	...	0	3	26	2	1	2	1	0	5	8	10	2	0								
	1730	"	998.3	980.0	...	38.8	23.0	11.9	15.3	24	...	1.2	...	...	0	2	13	0	3	3	2	0	5	0	2	16	0								
	2330	"	1000.5	981.6	...	29.9	20.8	14.5	17.2	43	...	1.3	...	...	0	2	22	0	0	4	4	0	0	11	3	9	0								
Mainpuri	0830	157	1001.5	984.6	-0.9	31.7	21.6	14.3	17.8	39	+2	1.3	-0.1	2.2	0	0	22	0	0	4	4	0	0	11	3	9	0										
	1730	"	997.6	981.2	...	39.7	23.0	12.0	14.6	21	...	1.1	...	2.3	0	0	23	0	0	3	1	0	0	15	4	8	0										
Aligarh	0830	187	1002.0	981.5	...	31.3	20.7	13.3	15.6	37	+6	1.2	+0.5	3.4	0	0	23	2	0	6	1	1	2	8	3	8	0										
	1730	"	998.1	978.0	...	38.5	21.9	9.1	12.3	21	...	1.3	...	5.0	0	0	25	4	0	3	0	2	1	11	4	6	0										
Bareilly	0830	173	1002.2	983.1	-0.8	31.2	20.8	13.4	16.3	37	-9	1.3	-0.1	5.6	0	0	24	0	0	8	5	0	1	8	2	7	0										
	1730	"	996.2	977.5	...	37.1	21.5	8.5	13.2	22	...	1.5	...	3.0	0	0	17	0	0	4	1	0	1	9	2	14	0										
Bareilly (P. B. O.)	0230	172	999.3	980.3	...	28.4	19.9	14.9	19.2	47	...	0.9	...	6.2	0	0	24	4	0	7	1	1	0	5	6	7	0										
	0530	"	1000.2	981.0	...	26.7	19.9	16.0	18.0	55	...	1.8	...	5.1	0	0	20	0	2	6	1	0	0	8	3	11	0										
	1130	"	1001.6	982.9	...	35.9	23.9	17.3	19.4	37	...	1.1	...	12.3	0	4	27	0	1	8	3	1	1	11	6	0	0										
	2330	"	999.8	981.0	...	30.2	21.1	15.3	17.6	44	...	0.9	...	5.7	0	1	24	1	0	5	2	3	1	9	4	6	0										
Meerut	0830	222	1002.1	977.7	-0.7	31.9	22.8	15.6	19.8	41	+1	0.4	-0.8	3.9	0	0	20	0	0	14	0	0	0	6	0	11	0										
Najibabai	0830	270	1002.2	972.5	...	29.3	19.9	13.2	15.7	39	...	0.5	...	2.5	0	0	23	0	4	0	10	0	0	0	9	8	0										
	1730	"	998.5	969.9	...	37.6	21.3	8.3	12.8	21	...	0.4	...	2.7	0	0	27	0	3	0	5	0	1	0	18	4	0										
Roorkee	0830	274	1002.2	972.0	-0.9	29.5	19.8	12.8	15.1	39	0	2.7	+1.4	1.5	0	0	14	0	0	0	5	0	0	0	9	17	0										
	1730	"	998.5	969.1	...	37.4	21.2	8.6	13.6	21	...	2.9	...	1.5	0	0	15	0	0	0	3	0	0	0	12	16	0										
Dehra Dun	0530	682	1001.7	926.8	...	22.5	15.7	10.2	12.8	49	...	1.8	...	3.5	0	0	25	9	10	0	1	1	1	0	3	6	0										
	0830	"	1002.2	928.6	-0.5	28.4	18.9	12.5	14.9	41	-3	1.6	-0.3	1.4	0	0	13	2	0	1	0	6	2	2	0	18	0										
	1130	"	1000.0	928.6	...	33.2	18.9	9.0	11.9	26	...	2.0	...	8.1	0	0	30	1	1	0	5	9	5	5	4	1	0										
	1730	"	998.4	925.8	...	33.1	19.3	9.2	12.9	27	...	2.1	...	3.2	0	0	23	3	1	0	2	4	6	5	2	8	0										
	2330	"	1001.0	926.9	...	25.7	17.1	10.6	13.0	43	...	1.0	...	5.0	0	1	23	13	7	0	1	1	0	1	1	7	0										
Punjab (India) (Including Delhi)																																					
New Delhi	0230	216	999.9	975.8	...	27.7	18.7	11.6	14.6	40	...	0.1	...	5.6	0	0	19	3	1	4	3	0	1	1	6	12	0										
	0530	"	1000.6	976.4	...	26.2	18.1	11.4	14.2	43	...	1.8	...	5.7	0	1	20	1	2	2	3	0	3	6	4	10	0										
	0830	"	1002.2	978.3	-0.8	30.8	19.8	11.3	14.2	35	+5	1.9	+0.8	12.3	0	5	23	1	0	2	5	0	3	9	8	3	0										
	1130	"	1001.9	978.4	...	36.2	21.3	10.0	12.8	24	...	1.6	...	15.1	0	7	24	9	0	2	6	1	3	7	9	0	0										
	1730	"	997.7	974.5	...	38.1	21.6	8.8	12.3	21	...	1.7	...	12.8	0	6	23	3	1	5	3	0	1	6	10												

Division and station	Hour of observation I.S.T	Height of barometer cistern above mean sea level in metres	Mean pressure in millirs			Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km p.h.)			No. of observations									
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Punjab (India) (Including Delhi)— <i>Contd.</i> New Delhi (Palam Aerodrome)— <i>contd.</i>	1730	233	997.8	971.7	...	38.8	22.1	9.6	13.2	21	...	1.5	...	...	0	13	18	1	1	2	3	1	2	12	9	0	0
	2030	"	999.2	974.0	...	33.9	20.9	12.7	15.1	30	...	1.5	...	...	0	2	27	1	5	8	3	1	1	5	5	2	0
	2330	"	1000.2	974.4	...	30.5	19.9	11.8	15.7	35	...	0.6	...	...	0	1	27	2	3	8	3	3	1	2	6	3	0
Hisar	0530	221	1000.5	975.7	...	24.9	17.7	11.9	14.5	47	...	(b) 1.4	...	6.8	0	2	26	4	1	2	6	5	8	1	1	3	0
	0830	"	1001.9	977.5	-1.0	30.0	20.0	12.5	15.3	37	+1	2.0	+1.0	9.4	0	3	27	4	0	1	5	4	7	6	3	1	0
	1130	"	1001.5	977.7	...	38.4	22.3	10.8	13.7	22	...	(a) 1.2	...	7.8	0	4	19	0	1	0	2	5	4	7	4	8	0
	1730	"	997.7	974.1	...	39.3	22.4	10.1	13.4	20	...	(a) 1.8	...	8.3	0	1	27	1	0	0	2	4	3	13	5	3	0
Karnal	2330	"	1000.3	975.8	...	29.4	19.4	11.8	14.5	37	...	0.4	...	5.9	0	1	27	4	2	5	4	1	3	4	5	3	0
	0830	249	1001.2	973.6	...	25.9	18.9	14.4	17.5	52	...	1.1	...	1.4	0	0	7	0	1	0	4	0	1	0	1	24	0
Patiala	1730	"	998.2	971.6	...	38.1	21.9	10.2	13.1	21	...	1.2	...	1.4	0	0	9	0	0	0	2	0	0	3	4	22	0
	0830	251	1002.7	974.9	...	30.0	19.7	11.9	14.6	36	...	1.7	...	7.7	0	0	19	3	0	0	11	0	0	0	5	12	0
Ambala	1730	"	998.1	971.1	...	36.9	21.2	9.5	12.3	21	...	2.4	...	7.5	0	0	24	0	0	0	4	0	0	0	20	7	0
	0830	272	1001.3	971.4	-1.3	30.0	23.5	19.4	23.0	53	+22	0.9	-0.4	3.6	0	0	18	0	0	0	7	0	4	0	7	13	0
Ambala (P. B. O.)	1730	"	977.7	968.7	...	38.3	27.5	21.5	27.8	42	...	1.2	...	1.2	0	0	9	0	0	0	2	0	5	0	2	22	0
	0230	278	999.2	968.4	...	27.5	17.7	10.5	13.2	37	...	0.8	...	7.2	0	0	27	3	1	4	8	3	0	2	6	4	0
	0530	"	999.9	969.0	...	26.1	17.3	11.1	12.5	42	...	2.4	...	8.7	0	1	25	1	0	2	11	0	2	2	7	5	1
Ambala (Aerodrome)	1130	"	1001.2	971.1	...	35.2	20.8	11.7	12.5	27	...	1.8	...	12.8	0	3	28	4	1	1	13	2	3	3	4	0	0
	2330	"	999.7	969.1	...	30.0	18.8	11.2	12.8	35	...	1.4	...	9.1	0	2	25	6	1	3	6	3	1	1	6	4	0
	0530	273	1000.1	969.4	...	24.3	18.1	13.3	16.1	53	...	2.0	...	...	0	6	17	0	2	8	4	0	0	5	4	8	0
	0830	"	1001.3	971.1	...	30.1	20.7	14.5	17.8	41	...	1.8	...	...	0	9	16	0	1	7	7	0	0	4	6	6	0
	1130	"	1001.1	971.4	...	35.7	22.2	12.4	13.3	27	...	1.8	...	...	0	13	11	0	0	7	6	3	0	6	7	2	0
Chandigarh	1730	"	997.6	968.2	...	37.4	22.3	11.3	14.4	24	...	2.2	...	...	0	0	20	2	1	1	3	6	1	8	6	3	0
	2330	"	999.8	969.2	...	28.6	19.7	13.2	15.8	42	...	1.4	...	...	0	7	14	1	0	3	3	1	0	6	7	10	0
	0830	347	1001.0	963.5	...	31.6	20.1	11.6	13.1	33	...	1.2	...	...	0	0	25	1	2	5	9	2	0	1	5	6	0
Ludhiana	1730	"	997.6	960.6	...	36.2	21.4	10.8	13.5	24	...	(a) 0.8	...	...	0	0	24	0	2	0	6	1	4	4	7	6	0
	0830	247	1001.5	974.3	-1.1	30.4	20.3	13.0	15.4	38	0	2.0	+0.8	4.2	0	0	26	0	3	1	11	2	3	1	5	5	0
Halwara (Aerodrome)	1730	"	997.9	971.3	...	37.6	22.3	11.9	14.8	24	...	1.0	...	4.5	0	0	27	0	1	0	3	2	5	3	13	4	0
	0830	242	1002.1	975.4	...	29.9	20.5	14.2	16.4	41	...	1.9	...	...	0	11	20	3	2	1	13	4	1	0	7	0	0
Ferozepur	1730	"	999.4	973.4	...	37.7	22.3	11.2	14.1	23	...	(a) 2.3	...	...	0	16	14	2	2	0	3	3	1	4	13	1	0
	0830	200	1001.4	978.9	...	27.0	22.8	19.9	24.6	67	...	1.3	...	1.5	0	6	13	0	1	0	5	1	1	0	5	13	0
Amritsar	1730	"	997.5	975.9	...	37.7	25.4	20.1	22.5	37	...	0.8	...	2.1	0	6	12	1	0	0	4	0	2	0	11	13	0
	0530	234	1000.9	971.1	...	20.6	17.0	14.1	16.5	61	...	1.8	...	8.4	0	1	25	3	0	9	4	2	0	4	4	5	0
	0830	"	1001.6	975.6	...	27.9	19.4	13.3	15.4	41	...	2.3	...	12.4	0	9	21	3	2	6	8	3	1	2	5	1	0
	1130	"	1001.5	975.9	...	34.0	21.2	11.8	14.6	30	...	2.1	...	13.6	0	5	23	3	6	6	9	4	0	1	5	3	0
Pathankot	1730	"	998.2	973.3	...	35.6	21.1	9.6	13.3	24	...	2.0	...	14.5	0	10	17	3	0	3	2	1	4	7	7	4	0
	0830	344	1002.4	964.6	...	28.7	20.0	14.0	16.8	44	...	(c) 3.4	...	2.6	0	0	18	1	1	9	4	1	0	0	2	13	0
	1730	"	999.3	952.4	...	35.5	21.0	10.5	11.7	24	...	(c) 3.6	...	6.3	0	1	26	1	2	1	2	5	2	12	2	4	0
Pathankot (Aerodrome)	0830	312	1001.8	967.3	...	29.9	19.6	11.8	14.6	37	...	3.0	...	4.8	0	0	22	0	10	6	2	2	0	1	1	9	0
	1130	"	1001.2	967.6	...	34.9	20.6	9.7	12.5	21	...	3.0	...	6.9	0	1	24	1	5	2	3	8	4	1	1	6	0
Adampur (Aerodrome)	1730	"	998.3	964.7	...	36.2	20.2	6.6	10.3	19	...	3.5	...	8.2	0	2	28	4	2	0	0	1	9	13	1	1	0
	0530	233	999.9	972.9	...	22.1	16.6	12.1	14.5	55	...	2.5	...	...	0	6	18	1	1	6	8	0	0	2	6	7	0
	0830	"	1000.9	974.4	...	28.9	19.7	13.0	15.5	43	...	(c) 2.9	...	...	0	7	20	3	0	5	9	3	2	2	3	4	0
	1130	"	1000.5	976.5	...	34.7	21.6	12.9	14.8	30	...	(d) 3.1	...	...	0	14	17	1	0	2	10	6	3	2	7	0	0
Himachal Pradesh Bilaspur	1730	"	997.8	971.9	...	36.0	21.3	10.1	13.5	25	...	(a) 2.9	...	...	0	8	23	3	1	2	7	2	3	3	10	0	0
	2330	"	999.8	973.0	...	25.2	18.1	12.4	14.5	48	...	1.5	...	...	0	1	19	0	3	1	3	1	1	3	8	11	0
	0830	493	1002.8	948.6	...	27.3	20.5	16.4	19.3	54	...	2.5	...	1.7	0	0	14	4	2	1	1	3	1	1	1	17	0
Mandi	1730	"	998.4	945.7	...	34.5	24.7	19.6	24.0	45	...	2.6	...	5.2	0	0	31	3	0	0	1	8	7	6	6	0	0
	0830	761	1002.2	919.5	...	23.7	16.8	11.9	14.3	50	...	2.1	...	1.3	0	0	9	1	0	0	0	1	0	4	3	22	0
Jammu and Kashmir Banihal (R)	1730	"	997.5	916.9	...	31.7	18.5	8.3	11.9	29	...	3.5	...	2.3	0	0	21	3	2	0	3	2	2	1	8	10	0
	0830	(R)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Srinagar	0530	1587	1466.8	838.1	...																						

Division and station	Hour of observation I.S.T.	Height of barometer in mm. above mean sea level in metres	Mean pressure in millibars		Mean temperature in °C			Vapour pressure in mbs	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km. p.h.)			No. of observations												
			At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, in km. per hour	Wind direction														
														At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Mean amount	Departure from normal	62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Jammu and Kashmir Contd. Srinagar (Aerodrom)	0530	1665	1464.7	830.5	...	11.7	10.1	8.7	10.9	83	...	4.8	...	7.2	0	0	23	1	0	0	3	7	6	4	2	8	0	
	0830	"	1472.1	831.5	...	15.4	12.7	10.9	12.7	75	...	4.6	...	6.4	0	0	26	5	1	1	4	0	4	6	5	5	0	
	1130	"	1470.3	831.5	...	18.8	14.4	11.1	13.6	63	...	5.3	...	8.4	0	2	26	9	0	0	3	1	0	2	13	3	0	
	1730	"	1418.5	829.3	...	20.5	14.3	10.3	12.0	55	...	5.1	...	10.8	0	4	23	6	0	1	2	0	0	3	15	4	0	
Gulmarg	0830	2655	...	...	...	Closed during winter months			...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dras (R)	0830	3066	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kargil (R)	0830	2679	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Leh	0530	3514	3093.5	665.3	...	1.4	1.0	3.3	3.1	40	...	(a) 3.5	...	(a) 6.4	0	0	25	5	18	0	2	0	0	0	0	5	0	
	0830	"	3098.1	666.1	-1.2	8.7	2.4	7.0	3.5	33	-5	4.6	1.1	5.8	0	0	22	2	1	1	1	7	10	0	0	9	0	
	1730	"	3051.5	663.2	...	13.9	5.8	3.0	4.8	30	...	4.9	...	10.1	0	3	26	4	4	0	1	1	7	5	7	2	0	
Skardu (R)	0830	2288	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gigit (R)	0830	1491	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Misgar (R)	0830	3106	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jammu (R)	0830	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jammu (Aerodrome)	0530	292	1000.5	967.8	...	25.0	18.7	11.5	15.7	45	...	1.0	...	...	0	0	23	1	12	1	3	0	1	2	3	8	0
	0830	"	1001.4	969.1	...	30.0	20.3	13.6	16.7	39	...	3.6	...	...	0	0	24	2	10	1	7	3	0	0	1	7	0
	1130	"	1001.1	969.4	...	31.5	21.2	12.4	14.2	29	...	(a) 3.6	...	...	0	2	25	0	3	2	11	4	0	3	4	4	0
	1730	"	998.2	966.7	...	35.7	21.8	11.7	15.7	27	...	3.7	...	...	0	0	28	0	5	0	3	4	5	3	8	3	0
Rajasthan (West) Sri Ganganagar	0530	177	999.9	979.9	...	24.4	18.1	13.1	15.5	53	...	1.6	...	3.4	0	0	20	2	2	4	4	3	2	0	3	11	0	
	0830	"	1001.1	981.4	...	29.5	20.5	13.4	17.0	40	+9	1.7	+1.3	3.4	0	0	20	1	1	2	2	3	8	2	1	11	0	
	1130	"	1000.7	981.6	...	37.2	22.0	10.8	13.9	24	...	1.4	...	8.3	0	0	28	2	2	2	1	5	9	4	3	3	0	
	1730	"	997.1	978.1	...	39.5	22.4	10.5	12.7	19	...	1.4	...	4.3	0	0	24	4	3	1	1	2	3	5	5	7	0	
Churu	0830	291	1002.6	970.5	...	39.0	22.1	17.4	20.1	49	...	1.2	...	12.9	0	4	26	5	1	0	2	6	8	6	2	1	0	
	1730	"	998.3	967.5	...	38.8	25.5	17.6	21.8	34	...	2.0	...	29.2	0	11	20	4	0	0	1	2	7	12	5	0	0	
Bikaner	0830	224	1001.9	977.2	-1.1	30.2	20.1	12.1	15.3	37	+5	0.2 (a) 0.6	-0.7	8.6	0	0	31	1	5	0	0	3	1	15	4	2	0	0
	1730	"	997.3	973.1	...	40.8	21.6	6.7	9.2	15	...	0.6	...	10.1	0	1	27	2	1	0	0	0	9	7	9	3	0	
Bikaner (P.B.O.)	0530	224	1000.5	975.6	...	27.0	21.4	17.6	21.4	57	...	6.6 (b) (a) 0.7	...	7.2	0	0	21	2	0	1	4	14	5	2	1	0		
	1130	"	1001.3	977.2	...	38.0	26.9	20.9	25.9	41	...	0.7 (b) (a) 0.8	...	11.5	0	2	28	2	2	0	1	3	4	5	4	1	8	0
Jaisalmer	0830	242	1002.1	975.4	...	30.1	25.2	22.8	27.6	65	...	0.6	...	18.2	0	8	23	0	0	0	0	1	15	15	0	0	0	
	1730	"	997.4	971.8	...	40.8	29.0	24.0	30.2	39	...	0.3	...	16.8	0	6	25	1	0	0	0	0	15	15	0	0	0	
Phalodi	0830	234	1002.9	977.2	...	30.4	22.4	16.6	20.5	47	...	0.5	...	24.3	0	20	10	1	1	2	1	5	11	8	1	1	0	
	1730	"	999.2	974.6	...	40.7	23.9	10.2	15.3	22	...	1.0 (b) (a) 0.5	...	21.9	0	16	15	1	1	0	0	3	12	11	3	0	0	
Nagaur	0830	298	1002.5	969.6	...	31.6	19.9	19.6	14.9	31	...	0.5 (a) (b) 0.9	...	11.8	0	7	24	3	2	1	1	5	15	4	0	0	0	
	1730	"	997.3	966.1	...	40.1	20.5	5.1	10.0	11	...	0.9	...	17.0	0	8	23	1	0	0	0	5	11	10	4	0	0	
Jodhpur	0230	224	1000.9	976.1	...	30.6	20.3	12.5	15.4	36	...	0.5	...	13.2	0	2	26	2	2	0	0	1	8	14	1	3	0	0
	0530	"	1001.7	976.8	...	32.8	19.9	13.6	16.6	43	...	0.8	...	12.0	0	4	27	1	3	1	0	2	12	9	3	0	0	
	0830	"	1003.5	978.7	+0.5	30.9	22.0	15.9	19.6	44	+2	1.5	+0.5	15.0	0	7	21	0	3	0	0	1	16	6	2	3	0	
	1130	"	1003.0	978.7	...	36.9	23.2	14.3	17.5	29	...	1.0 (a) (b) 0.9	...	15.3	0	7	22	0	1	1	1	1	15	9	1	2	0	
	1730	"	998.5	974.6	...	40.7	23.0	10.7	13.2	18	...	0.9	...	18.2	0	10	21	2	1	0	0	0	17	10	1	0	0	
	2330	"	1001.0	976.5	...	33.6	21.2	12.0	14.9	30	...	0.5	...	11.9	0	3	27	1	2	0	0	0	14	10	3	1	0	
Barmer	0530	194	1001.3	979.7	...	29.0	22.1	17.8	20.7	53	...	0.6	...	...	0	4	26	0	0	0	...	1	13	12	3	1	0
	0830	"	1003.0	981.5	-0.7	30.8	22.8	18.0	21.1	48	-13	1.0	+0.3	...	0	6	24	0	3	1	1	1	8	15	1	1	0	
	1130	"	1002.5	981.6	...	37.7	23.4	13.8	16.9	27	...	0.5	...	...	0	2	24	0	2	0	0	3	16	6	3	1	0
	1730	"	998.3	977.6	...	41.5	23.1	10.4	13.2	17	...	1.0	...	...	0	1	29	0	2	0	0	3	16	6	3	1	0
2330	"	1001.0	979.7	...	33.9	22.7	15.3	18.7	36	...	0.2	...	...	0	5	19	0	0	0	0	1	14	8	1	7	0	
Rajasthan (East) Pilani	0830	...	...	...	...	30.9	20.1	12.0	14.2	35	...	1.2	...	14.2	0	7	22	1	0	0	0	4	6	8	6	2	4
	1730	...	...	...	...	39.0	22.0	9.4	12.5	21	...	1.2	...	20.4	0	14	17	3	1	2	0	1	3	15	4	0	2
Alwar	0830	271	1001.5	971.3	...	31.1	22.8	17.7	20.9	48	...	1.4	...	2.7	0	0	15	1	3	2	0	1	3	3	2	16	0	
	1730	"	997.9	969.0	...	38.6	26.4	19.9	23.8	38	...	2.4	...	4.8	0	0	30	3	2	3	0	3	7	5	7	1	0	
Sikar	0830	433	1003.6	956.5	...	30.8	24.7	21.4	26.0	57	...	1.0	...	2.3	0	0	23	3	0	6	0	0	8	6	0	8	0	
	1730	"	997.8	952.0	...	37.7	24.7	17.3	20.5	35	...	2.1	...	2.5	0	0	23	1	1	0	1	0	6	10	4	8	0	

(R) Register not received.

Division and station	Hour of observation I.S.T.	Height of barometer, cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard sea-level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	WNW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Rajasthan (East) —Contd.																												
Jaipur *	0830	436	1003.7	956.4	-5.1	31.9	18.6	7.5	10.9	23	-14	0.6	-0.4	8.6	0	23	2	0	0	1	1	0	13	6	3	0		
	1130	"	1002.8	956.5	"	38.3	19.8	2.3	8.2	12	"	0.9	"	3.7	0	3	23	1	0	1	0	1	6	12	5	0		
	1730	"	998.6	952.8	"	39.5	19.6	0.4	6.4	9	"	1.6	"	12.7	0	3	21	0	1	0	0	0	6	12	5	2		
Jaipur (Sanganer Aerodrome).	0230	399	1000.6	957.6	"	27.7	17.8	9.2	13.4	35	"	0.7	"	"	0	1	29	6	3	1	0	1	1	6	12	1		
	0530	"	1001.2	957.9	"	25.9	16.8	9.6	11.9	39	"	0.9	"	"	0	0	27	8	1	2	1	1	1	3	10	4		
	0830	"	1002.5	959.9	-1.6	31.3	20.1	11.4	16.0	33	-4	1.1	+0.1	"	0	4	25	2	2	3	1	2	1	8	10	2		
	1130	"	1001.9	960.9	"	36.5	21.4	9.6	13.7	25	"	1.6	"	"	0	11	19	1	1	2	1	1	4	14	6	1		
	1730	"	997.7	956.3	"	38.3	21.7	8.7	12.3	20	"	1.6	"	"	0	10	21	2	2	0	0	0	4	15	8	0		
Dholpur	0830	176	1001.8	982.5	"	32.1	21.1	13.5	16.0	36	"	1.9	"	4.5	0	0	18	3	2	0	3	0	2	6	2	13		
	1730	"	997.5	978.7	"	39.8	22.5	9.5	13.7	20	"	3.1	"	9.2	0	1	27	3	0	1	0	1	1	13	9	3		
Tonk	0830	272	1002.0	972.2	"	31.6	21.9	13.4	18.4	41	"	0.8	"	11.1	0	4	27	2	1	1	1	2	6	8	7	0		
	1730	"	997.0	968.2	"	40.1	24.5	14.9	17.9	27	"	1.6	"	17.4	0	8	23	1	1	1	0	1	10	10	7	0		
Ajmer	0830	486	1002.9	950.3	-1.2	30.7	19.6	12.0	14.5	35	-4	1.2	+0.2	15.1	0	9	22	2	2	1	1	0	13	12	0			
	1730	"	998.8	947.2	"	38.0	19.9	5.4	9.8	16	"	1.5	"	16.1	0	5	26	2	0	0	0	0	10	14	5	0		
Kota	0530	257	1001.8	973.2	"	29.5	19.6	12.4	14.5	38	"	1.3	"	2.9	0	0	17	0	0	0	3	0	4	10	0	14		
	0830	"	1003.1	975.5	-0.4	31.8	22.1	13.6	16.0	31	+2	0.7	-0.2	5.4	0	0	24	0	1	0	0	0	4	15	4	7		
	1130	"	1002.5	975.1	"	39.0	23.4	13.7	16.0	24	"	0.8	"	3.5	0	0	21	0	0	1	1	0	3	9	7	10		
	1730	"	993.8	971.5	"	19.6	23.2	11.5	14.5	19	"	1.1	"	6.3	0	0	26	0	0	0	0	0	5	14	7	5		
	2330	"	1001.1	973.1	"	32.9	20.8	12.0	15.5	31	"	1.1	"	2.8	0	0	17	0	0	1	0	0	3	13	0	14		
Chambal	0630	351	1003.1	965.0	"	33.0	22.4	16.9	18.2	39	"	1.3	"	9.3	0	0	28	0	2	0	1	2	5	13	5	3		
	1730	"	998.2	961.1	"	40.2	25.5	17.3	20.1	27	"	2.3	"	13.2	0	3	28	2	0	0	0	0	7	10	12	0		
Jhalawar	0830	321	1003.2	968.1	-0.6	31.5	20.6	12.6	15.4	35	-8	1.4	+0.6	3.3	0	0	24	1	1	1	1	0	8	9	3	7		
	1730	"	998.0	964.2	"	40.9	21.9	7.4	10.9	15	"	1.8	"	5.6	0	0	31	2	3	0	0	1	5	12	8	0		
Udaipur	0230	582	1002.4	939.1	"	27.8	20.7	16.8	18.9	53	"	1.3	"	5.0	0	1	17	2	0	0	0	1	6	7	2	13		
	0530	"	1003.1	939.4	"	26.1	20.2	16.8	19.5	57	"	1.7	"	5.1	0	1	17	0	0	0	0	2	7	6	3	13		
	0830	"	1003.7	941.0	-1.1	31.2	23.2	19.0	22.3	50	+5	1.6	+1.2	4.7	0	0	24	2	1	0	0	3	8	6	4	7		
	1130	"	1002.8	941.0	"	35.9	24.5	18.4	22.3	39	"	1.3	"	8.0	0	1	29	2	1	3	1	3	10	6	4	1		
	1730	"	999.0	937.1	"	37.2	25.3	19.4	23.4	38	"	1.4	"	9.0	0	2	28	2	0	0	1	9	9	7	2	1		
Erinpura (Jawai Dam)	0830	295	1004.6	972.3	"	31.1	23.7	18.2	23.0	48	"	0.5	"	7.6	0	0	27	0	0	2	7	6	11	0	1	4		
	1730	"	999.8	968.4	"	39.7	25.8	18.0	21.4	30	"	0.5	"	13.2	0	9	21	0	4	1	1	0	20	3	1	1		
Madhya Pradesh (West)																												
Gwalior	0230	207	1000.0	977.1	"	29.3	18.1	8.0	11.7	31	"	2.0	"	8.7	0	3	21	1	0	1	3	2	6	9	2	7		
	0530	"	1000.8	977.9	"	28.0	17.8	8.4	12.1	34	"	2.2	"	6.0	0	2	22	1	0	0	5	2	8	6	2	7		
	0830	"	1002.1	979.7	0	34.0	20.0	8.0	12.0	26	+2	1.8	+0.9	1.0	0	0	31	5	0	1	2	2	8	7	6	0		
	1130	"	1001.8	979.6	"	38.2	21.0	7.0	10.8	19	"	1.4	"	12.2	0	1	28	6	1	3	0	0	1	5	13	2		
	1730	"	997.9	975.9	"	40.8	20.9	4.3	8.6	16	"	2.6	"	13.2	0	1	30	2	1	2	0	0	1	13	12	0		
Sheopur Kalan	2330	"	1000.4	977.7	"	30.9	18.8	8.5	11.9	30	"	2.0	"	6.0	0	1	17	1	1	2	1	1	5	5	2	13		
	0830	235	1002.8	977.2	"	33.4	20.6	10.9	13.8	29	"	1.2	"	9.0	0	3	26	1	1	1	1	8	7	4	6	2		
	1730	"	997.6	972.9	"	40.5	22.3	7.7	12.0	17	"	1.9	"	14.6	0	4	26	9	2	0	0	2	5	2	10	1		
Guna	0530	478	1001.9	949.2	"	25.7	16.5	9.2	12.1	39	"	2.6	"	3.4	0	0	14	1	0	0	2	3	4	3	1	17		
	0830	"	1003.1	951.2	-0.5	32.0	19.2	10.1	13.0	30	+1	2.1	+1.3	5.6	0	0	26	3	2	0	0	3	5	13	0	5		
	1130	"	1001.9	951.1	"	37.2	20.2	7.6	11.3	19	"	1.6	"	9.5	0	0	30	3	3	1	0	0	5	12	6	1		
	1730	"	997.5	947.3	"	39.1	20.2	5.2	9.9	15	"	3.1	"	13.0	0	3	27	2	0	0	0	0	5	12	11	1		
	2330	"	1001.3	949.1	"	28.9	17.9	9.4	12.5	33	"	1.6	"	6.1	0	2	14	3	0	1	0	1	3	8	0	15		
Rajgarh	0830	382	1003.5	962.0	"	32.0	21.3	13.9	16.6	37	"	1.7	"	5.3	0	1	19	3	1	1	0	1	1	12	1	11		
	1730	"	998.2	957.9	"	40.4	23.4	12.3	15.0	20	"	2.6	"	8.0	0	2	21	5	0	0	0	2	0	13	3	8		
Neemuch	0830	496	1004.1	950.4	-0.7	31.4	19.3	10.7	13.7	32	-15	1.5	+0.7	14.3	0	6	24	2	4	0	0	0	7	14	3	1		
	1730	"	999.0	946.8	"	38.9	19.6	3.3	8.7	13	"	1.8	"	15.9	0	7	24	1	2	0	0	0	6	17	5	0		
Ratlam	0830	486	1004.6	951.5	"	29.8	20.8	15.3	18.1	44	"	2.4	"	15.8	0	9	20	1	2	1	0	1	9	13	2	2		
	1730	"	999.0	947.7	"	38.7	22.0	11.4	14.2	20	"	2.1	"	16.1	0	6	23	1	1	0	0	0	7	17	3	2		
Alirajpur	0830	293	1005.9	973.7	"	30.4	22.8	17.9	21.5	51	"	2.6	"	15.1	0	11	17	0										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Division and station	Hour of observation	Height of barometer (corrected) above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g. p.m.s. of the nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mms.		Departure from normal	Mean amount		Departure from normal	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																		19	20	21	22	23	24	25	26	27		28
Saurashtra and Kutch—contd.																												
Rajkot (Aerodrome)	0830	138	1005.7	990.4	-1.2	29.5	25.0	22.7	28.0	69	0	1.4	-0.8	24.6	0	15	16	0	1	0	0	1	11	12	6	0	0	
	1130	"	1005.1	990.1	"	37.0	24.3	16.7	19.9	33	"	0.3	"	27.2	0	20	11	2	2	0	0	1	6	11	8	0	1	
	1730	"	1001.2	986.5	"	39.2	23.0	11.0	14.9	23	"	0.6	"	34.0	1	23	7	2	1	0	1	0	7	15	5	0	0	
Surendranagar	0830	74	1005.5	997.2	"	30.6	"	"	"	"	"	2.1	"	21.8	0	13	17	1	1	0	0	1	6	13	8	1	0	
	1730	"	1000.7	992.8	"	40.8	"	"	"	"	"	1.8	"	21.3	0	13	18	1	2	0	0	0	7	13	8	0	0	
Thavnagar	0830	17	1006.2	1004.3	-1.3	30.8	24.6	21.3	25.3	57	-4	1.3	-0.5	3.9	0	0	30	0	2	0	1	2	10	3	12	1	0	
	1730	"	1001.5	999.7	"	40.2	"	"	"	"	"	1.6	"	6.3	0	0	28	0	2	3	4	10	3	4	2	3	0	
Bhavnagar (Aerodrome)	0830	11	1005.9	1004.7	"	31.7	23.8	19.4	23.0	50	"	2.2	"	19.4	0	10	20	3	2	1	1	1	6	11	5	1	0	
	1130	"	1005.3	1004.6	"	36.3	24.6	18.1	21.4	36	"	1.2	"	18.0	0	10	20	1	6	10	1	0	6	2	4	1	0	
	1730	"	1001.2	1000.1	"	39.1	24.7	16.0	19.2	28	"	1.2	"	32.0	1	23	7	1	1	4	6	12	5	2	0	0	0	
Mahuva†	0830	16	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1330	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Keshod	0830	51	1006.6	1000.9	"	29.5	25.9	23.3	30.4	72	"	3.3	"	19.8	0	8	20	2	3	0	0	3	4	10	6	3	0	
	1130	"	1006.5	1000.3	"	35.5	25.0	19.0	23.1	39	"	2.4	"	26.1	1	16	12	3	4	0	0	3	3	12	4	2	0	
	1730	"	1003.4	997.8	"	34.8	25.5	20.3	25.1	46	"	2.1	"	40.6	1	30	0	0	0	0	0	0	7	24	0	0	0	
Veraval	0230	8	1004.6	1003.7	"	27.4	26.1	25.5	32.3	89	"	2.1	"	17.5	0	8	22	7	0	0	0	1	5	4	13	1	0	
	0530	"	1004.6	1003.7	"	26.8	25.3	21.6	31.0	88	"	2.6	"	14.8	0	8	20	10	0	0	0	2	2	5	9	3	0	
	0830	"	1006.4	1005.5	-1.7	29.2	25.9	21.2	30.7	78	-4	3.1	+0.7	14.9	0	9	18	6	2	0	0	2	1	8	8	4	0	
	1130	"	1006.3	1005.9	"	31.7	26.9	21.9	31.7	70	"	2.1	"	19.6	0	13	18	1	2	0	0	2	6	14	6	0	0	
	1730	"	1003.8	1002.9	"	30.3	27.5	26.4	34.5	80	"	2.0	"	23.1	0	20	11	1	0	0	0	1	6	14	9	0	0	
	2330	"	1003.6	1004.7	"	27.9	26.4	25.7	33.2	88	"	1.9	"	19.3	0	15	15	4	0	0	0	1	3	7	15	1	0	
Konkan																												
Dahanu	0830	5	1006.6	1006.1	-1.0	30.0	26.9	25.4	33.4	73	+1	4.0	-0.4	19.2	0	6	25	3	2	6	5	4	5	5	1	0	0	
	1730	"	1003.3	1002.3	"	32.6	23.5	26.5	35.6	73	"	2.8	"	23.1	0	19	12	4	0	1	1	0	7	13	5	0	0	
Bombay (Colaba)	0830	11	1006.9	1005.7	-2.0	30.3	27.0	25.5	32.4	74	0	3.7	+0.4	6.5	0	0	27	4	2	2	3	3	2	6	5	4	0	
	1130	"	1006.9	1005.7	"	33.2	27.8	25.6	33.0	65	"	2.3	"	12.1	0	1	29	2	0	0	1	3	4	11	9	1	0	
	1730	"	1003.9	1002.7	"	32.6	27.8	26.0	33.6	68	"	2.7	"	15.3	0	3	28	2	0	0	0	0	4	14	11	0	0	
Bombay (Santacruz Aerodrome)	0230	15	1005.0	1003.3	"	28.6	25.7	24.4	39.7	73	"	2.3	"	7.3	0	4	18	4	3	0	0	3	3	6	3	9	0	
	0530	"	1005.2	1003.6	"	28.1	25.5	24.3	30.5	80	"	3.1	"	4.3	0	0	20	1	2	4	2	1	3	4	3	11	0	
	0830	"	1006.9	1005.3	-2.0	30.3	26.2	24.1	30.1	63	-4	4.1	+0.8	8.6	0	0	26	3	1	4	1	5	3	6	3	5	0	
	1130	"	1006.3	1005.2	"	33.2	26.9	24.1	30.3	60	"	3.0	"	17.3	0	6	25	2	0	0	0	1	7	15	6	0	0	
	1730	"	1003.8	1002.2	"	32.0	26.9	24.6	31.4	67	"	3.4	"	20.0	0	10	21	1	0	0	0	0	6	9	15	0	0	
2330	"	1006.1	1004.5	"	29.4	26.0	24.5	30.3	75	"	3.4	"	9.5	0	1	25	3	0	1	0	2	8	6	6	5	0		
Alibag	0830	7	1006.9	1006.1	-1.6	30.2	26.6	25.0	31.3	74	+2	3.4	-0.1	3.1	0	1	29	5	3	0	7	3	3	5	4	1	0	
	Harnai	0830	20	1006.7	1004.4	-1.1	29.9	27.0	25.3	33.3	79	0	5.9	"	11.5	0	3	27	6	3	3	4	4	0	6	4	1	0
1730		"	1004.0	1001.7	"	30.3	28.0	27.0	35.6	80	"	5.3	"	26.1	0	20	11	1	0	0	0	2	3	11	14	0	0	
Ratnagiri	0830	35	1007.1	1003.1	-1.9	30.1	26.4	24.6	31.6	73	"	4.3	"	"	0	0	31	1	1	9	4	0	1	11	4	0	0	
	1730	"	1004.1	1000.2	"	31.7	26.9	24.8	31.7	67	"	4.4	"	"	0	8	23	0	2	0	0	1	3	19	6	0	0	
Devgal	0830	36	1007.1	1003.1	-1.3	29.8	26.6	25.3	32.1	76	+2	4.7	+0.1	10.1	0	3	27	3	4	2	3	2	2	4	10	1	0	
	1730	"	1004.2	1000.2	"	31.8	27.6	26.3	34.0	73	"	4.7	"	24.8	0	18	13	0	0	0	0	2	3	10	16	0	0	
Vengurla	0230	9	1005.7	1004.7	"	27.9	26.0	25.2	32.0	85	"	4.7	"	0.8	0	0	4	0	0	1	0	0	2	0	1	27	0	
	0530	"	1005.7	1004.7	"	27.3	25.6	25.0	31.5	87	"	5.0	"	1.9	0	0	13	2	0	2	2	0	2	1	4	18	0	
	0830	"	1007.4	1006.4	"	29.6	26.4	25.0	31.3	76	"	4.7	"	2.4	0	0	16	4	0	1	1	3	1	4	2	15	0	
	1130	"	1007.5	1006.5	"	32.3	26.8	24.9	30.6	65	"	3.8	"	5.9	0	0	30	0	0	0	3	1	13	7	6	1	0	
	1730	"	1004.7	1003.7	"	31.6	27.1	25.4	32.3	69	"	5.0	"	9.0	0	1	30	0	0	0	1	2	11	11	6	0	0	
	2330	"	1006.9	1005.9	"	28.7	26.3	25.2	32.3	81	"	5.0	"	2.9	0	1	9	0	1	0	1	0	1	5	2	21	0	
Maharashtra (Including Marathwada)																												
Nandurbar	0830	206	1005.6	983.0	"	32.2	23.3	17.5	21.4	45	"	1.5	"	12.1	0	3	28	0	3	0	0	0	13	15	0	0	0	
	1730	"	1000.2	973.3	"	39.5	23.3	12.6	15.5	22	"	1.5	"	11.4	0	1	30	0	2	0	0	1	10	16	2	0	0	
Jalgaon	0830	201	1005.3	983.2	"	32.8	22.4	15.7	13.6	38	"	2.5	"	26.6	0	22	8	1	0	1	1	0	1	16	10	1	0	
	1730	"	999.4	978.0	"	41.6	21.8	5.6	10.1	12	"	2.7	"	25.0	0	14	17	1	2	4	3	1	1	9	10	0	0	
Mazgaon	0830	437	1005.4	958.0	-0.9	31.4	21.8	15.7	13.2	42	-5	2.5	+1.1	7.5	0	0	27	2	1	1	0	1	3	10	9	4	0	
	1730	"	999.9	953.7	"	38.0	22.9	13.1	15.6	26	"	3.1	"	10.5	0	0	29	6	3	2	2	1	2	4	9	2	0	
Deolai	0830	571	1006.6	994.4	"	28.4	22.3	19.0	22.4	59	"	3.4	"	11.2	0	7	21	3	0	0	1	4	12	7	1	3	0	
	1730	"	1001.7	941.0	"	34.8	22.8	16.0	19.0	36	"	4.0	"	18.1	0	9	22	5	1	0	1	0	5	8	11	0	0	
Aurangabad	0830	581	1005.6	942.9	-1.0	31.0	22.8	13.3	21.4	49	+5	3.3	+1.6	16.8	0	8	23	5	1	2	0	1	2	18	2	0	0	
	1730	"	999.6	938.6	"	37.7	24.4	16.9	21.0	34	"	3.9	"	14.1	0	8	19	10	2	2	0	2	0	8	3	4	0	

†Data not available.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %.	Departure from normal	Cloud amount (Okt as)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Maharashtra (Including Marathwada)—contd.																											
Aurangabad (Chkalthana Aerodrome)	0230	579	1003.4	940.6	...	27.8	21.5	18.0	21.0	58	...	4.2	...	11.1	0	5	15	2	0	0	0	0	0	14	4	11	0
	0530	"	1003.9	940.6	...	26.5	20.9	17.6	20.7	61	...	4.0	...	11.3	0	5	19	4	1	0	0	0	0	11	8	7	0
	0830	"	1004.9	942.4	...	30.9	22.7	18.0	21.5	50	...	3.0	...	16.7	0	9	21	4	2	1	1	0	1	12	9	1	0
	1130	"	1003.6	942.1	...	35.6	24.1	18.0	21.5	38	...	2.7	...	18.2	0	7	22	1	1	2	2	0	1	8	14	2	0
	1730	"	998.9	938.1	...	37.7	24.5	17.4	21.0	34	...	4.4	...	17.8	0	10	17	5	4	3	0	2	0	7	6	4	0
Ahmednagar	2330	"	1003.7	941.1	...	29.6	22.1	17.9	21.1	52	...	3.9	...	20.0	0	14	11	0	0	0	0	2	1	13	9	6	0
	0830	657	1005.5	934.5	-1.2	28.8	20.4	15.2	17.9	46	+5	3.1	+1.7	3.0	0	0	23	0	5	0	2	0	4	0	12	8	0
1730	"	"	999.5	930.5	...	36.0	21.2	12.0	14.4	26	...	4.2	...	5.3	0	0	28	1	9	0	3	0	4	0	11	3	0
	0830	423	1005.4	959.4	...	32.1	...	...	...	...	...	3.4	...	14.4	0	8	23	0	2	1	1	3	5	10	9	0	0
1730	"	"	999.0	954.5	...	39.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	0530	559	1005.1	943.4	...	24.3	21.0	19.3	22.4	75	...	3.2	...	2.2	0	0	12	0	0	0	1	2	3	6	0	19	0
Poona	0830	"	1006.2	945.2	-1.5	28.0	22.2	19.1	22.5	60	+2	3.0	+1.0	2.9	0	0	13	1	0	0	2	1	5	4	0	18	0
	1130	"	1004.6	944.8	...	33.8	22.6	16.3	19.1	37	...	2.2	...	6.0	0	0	27	2	4	2	2	1	3	7	6	4	0
	1730	"	1000.9	941.5	...	34.5	23.1	17.0	19.9	38	...	4.5	...	7.6	0	0	28	3	3	1	0	1	1	10	9	3	0
	2330	"	1005.7	944.4	...	26.0	21.7	19.4	22.7	67	...	3.2	...	3.5	0	0	16	0	1	0	0	4	4	7	0	15	0
	0230	593	1005.4	940.1	...	24.8	21.4	19.6	23.1	74	...	3.1	...	7.9	0	4	18	0	0	0	0	1	0	17	4	9	0
Poona (Lohagan Aerodrome)	0530	"	1005.4	939.9	...	24.0	21.2	19.8	23.1	79	...	3.5	...	7.7	0	3	19	0	0	0	0	0	0	18	4	9	0
	0830	"	1006.4	941.7	...	27.6	22.3	19.4	23.0	64	...	3.6	...	13.6	0	9	16	0	0	0	1	0	0	19	5	6	0
	1130	"	1004.8	941.4	...	33.6	22.7	16.2	19.5	39	...	2.7	...	16.4	0	11	16	3	1	2	3	0	0	12	6	4	0
	1730	"	1001.1	937.9	...	33.8	23.1	18.1	20.3	41	...	4.5	...	26.0	0	22	9	3	1	2	1	0	0	13	11	0	0
	2330	"	1005.8	940.8	...	25.9	22.1	20.1	23.7	72	...	3.3	...	12.6	0	7	20	1	0	1	1	1	0	20	3	4	0
Baramati	0830	551	1005.9	945.9	...	28.2	21.9	19.1	21.6	58	...	2.5	...	8.7	0	2	28	4	0	0	2	1	2	8	13	1	0
	1730	"	999.6	941.4	...	36.4	22.9	15.4	18.0	32	...	4.1	...	15.7	0	9	21	3	5	2	3	3	1	9	3	1	0
Jeur	0830	521	1005.5	948.9	...	29.9	21.7	17.0	19.8	48	...	2.4	...	10.3	0	2	26	6	0	2	1	1	1	6	11	3	0
	1730	"	999.1	944.1	...	36.8	22.6	14.4	17.0	28	...	4.1	...	11.1	0	5	23	6	4	2	3	1	1	2	9	3	0
Sholapur	0530	479	1004.4	952.0	...	20.2	20.5	15.5	18.5	52	...	2.7	...	8.7	0	0	29	1	5	0	2	1	3	10	7	2	0
	0830	"	1005.8	953.8	-0.8	30.7	21.6	16.1	19.0	45	-3	2.4	+0.2	8.1	0	0	29	0	8	0	5	0	9	0	7	2	0
	1130	"	1003.8	952.9	...	36.5	22.5	14.2	17.0	29	...	2.4	...	12.0	0	2	29	2	6	1	4	1	5	4	8	0	0
	1730	"	998.9	948.6	...	38.6	22.3	12.5	15.1	23	...	4.4	...	9.2	0	0	31	1	8	0	8	0	10	0	4	0	0
	2330	"	1003.9	952.0	...	31.5	21.2	14.9	17.7	41	...	3.4	...	11.9	0	3	28	3	6	0	6	0	0	7	9	0	0
Miraj	0830	554	1006.2	945.7	-1.3	27.1	23.1	21.0	25.4	71	-1	3.9	+1.2	...	0	0	16	2	0	0	0	0	1	7	6	15	0
	1730	"	1000.5	941.7	...	34.0	24.0	18.6	22.5	45	...	5.6	...	...	0	4	23	0	1	4	0	0	3	14	5	4	0
Kolhapur	0530	570	1005.4	942.6	...	24.0	21.6	20.3	24.0	80	...	2.8	...	4.8	0	0	23	0	1	1	0	0	2	16	3	8	0
	0830	"	1006.6	944.2	...	26.8	22.8	20.9	24.8	71	...	3.5	...	9.3	0	4	23	0	1	1	0	0	1	17	7	4	0
	1130	"	1004.9	943.8	...	33.0	23.3	18.1	21.5	44	...	3.0	...	12.2	0	6	24	1	4	4	2	3	1	8	7	1	0
	1730	"	1001.6	940.5	...	31.3	23.2	18.8	22.6	52	...	4.8	...	23.9	0	21	10	1	3	0	0	1	3	20	3	0	0
Vidarbha																											
Buldhana	0830	650	1004.6	934.5	...	29.5	21.0	15.9	18.4	46	...	4.0	...	8.1	0	0	30	0	3	0	1	0	3	0	23	1	0
	1730	"	998.6	930.6	...	36.8	22.3	13.8	16.4	26	...	4.9	...	5.9	0	0	26	0	5	0	0	0	3	0	18	5	0
Akola	0830	282	1004.5	973.7	-0.7	32.7	22.0	14.9	17.7	37	+1	4.1	+2.3	6.5	0	0	27	2	0	0	0	0	2	14	9	4	0
	1130	"	1003.2	972.9	...	38.1	22.8	12.9	15.3	24	...	3.3	...	8.3	0	0	28	2	0	0	1	0	4	10	11	3	0
	1730	"	998.3	968.5	...	41.1	22.9	9.6	12.0	16	...	4.4	...	5.2	0	0	24	0	1	2	3	0	1	14	3	7	0
Akola (Aerodrome)	0530	309	1002.1	968.1	...	29.8	19.2	10.7	13.7	33	...	3.0	...	10.1	0	5	25	0	0	0	2	2	2	23	1	1	0
	2330	"	1001.2	967.7	...	33.6	20.0	9.2	12.3	24	...	3.8	...	9.8	0	4	23	0	1	1	1	3	3	14	4	4	0
Amravati	0830	370	1004.1	964.0	-0.6	33.2	23.5	17.9	21.0	42	+7	3.4	+1.8	9.9	0	3	26	2	2	0	0	3	4	10	8	2	0
	1730	"	997.8	959.0	...	40.2	24.3	14.8	17.4	23	...	4.9	...	11.0	0	1	30	0	9	0	1	0	5	0	16	0	0
Yeotmal	0830	451	1004.0	955.3	...	33.2	22.6	15.7	18.8	39	...	2.3	...	12.9	0	6	24	2	0	0	0	4	5	10	9	1	0
	1730	"	998.1	950.7	...	39.6	23.0	12.2	14.6	20	...	3.5	...	13.2	0	6	24	6	1	0	3	2	3	8	7	1	0
Nagpur	0230	310	1000.8	966.9	...	30.8	20.6	13.0	15.8	35	...	1.9	...	5.6	0	0	24	1	0	0	0	2	8	6	7	7	0
	0530	"	1002.1	968.0	...	29.2	19.9	13.3	15.6	40	...	3.3	...	4.6	0	0	21	1	0	1	0	2	5	3	9	10	0
	0830	"	1003.8	970.1	-0.4	33.9	22.1	14.3	17.0	34	+4	3.2	+1.1	12.3	0	7	20	4	2	0	0	1	4	6	10	4	0
	1130	"	1002.3	969.2	...	39.6	23.3	12.7	15.2	21	...																

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Madras State—Contd. Vellore—Contd.	1730	214	1001.6	978.4	...	35.7	24.2	18.0	20.6	37	...	5.1	...	10.7	0	0	31	0	3	5	11	6	1	5	0	0	0
	2330	"	1005.9	982.2	...	29.8	24.4	21.7	25.9	62	...	2.8	...	8.9	0	3	20	0	2	0	5	14	1	1	0	0	8
Tambaram (Aerodrome)	0830	29	1006.2	1003.0	...	31.1	26.7	24.5	30.7	66	...	4.9	...	12.0	0	3	27	1	0	0	2	9	11	5	2	1	0
	1730	"	1002.6	999.4	...	33.1	26.8	24.0	29.8	59	...	3.7	...	27.5	0	28	3	0	0	1	18	10	1	1	0	0	2
Madras	0230	16	1004.6	1002.9	...	28.7	26.3	25.2	32.1	81	...	3.2	...	7.2	0	0	29	0	0	1	5	16	6	1	0	4	0
	0530	"	1005.0	1003.3	...	28.7	25.9	24.9	31.5	83	...	4.6	...	6.9	0	0	27	1	0	0	1	16	8	1	0	4	0
	0830	"	1006.7	1005.0	+0.1	31.4	26.4	34.2	30.2	66	+6	5.0	+1.6	10.7	0	2	28	0	0	0	4	14	9	2	1	1	0
	1130	"	1006.0	1004.3	...	35.4	26.8	23.0	28.1	49	...	4.3	...	16.2	0	7	24	0	0	2	5	11	7	3	3	0	0
	1730	"	1002.9	1001.2	...	32.7	27.2	25.0	31.7	65	...	4.0	...	16.2	0	8	23	0	0	3	16	9	3	0	0	0	0
	2330	"	1006.0	1004.3	...	29.3	26.7	25.6	32.8	81	...	2.9	...	13.1	0	6	25	0	0	1	8	17	4	1	0	0	0
Madras (Nungambakkam)	0830	6	1006.5	1005.8	...	31.4	26.4	24.2	30.2	66	...	5.0	...	7.2	0	0	28	0	0	0	3	8	11	5	1	3	0
Coastal Mysore Karwar	0830	4	1007.1	1006.6	-2.0	28.9	26.3	25.2	32.1	80	...	5.1	...	4.5	0	1	24	1	5	6	2	1	0	5	5	6	0
	1730	"	1004.7	1004.2	...	30.7	27.4	26.1	33.8	77	...	5.9	...	1.8	0	13	18	1	0	0	1	0	1	10	9	0	9
Honavar	0830	26	1007.4	1004.5	-1.5	28.1	25.5	24.6	30.9	80	+3	6.3	+0.9	3.4	0	0	27	1	2	17	2	1	1	2	1	4	0
	1730	"	1004.7	1001.8	...	31.0	26.8	25.3	32.2	72	...	5.8	...	7.5	0	0	31	0	0	0	3	6	2	16	4	0	0
Mangalore*	0230	22	1005.7	1003.2	...	27.3	24.9	24.0	29.8	82	...	5.5 (g)	...	6.6 (g)	0	0	19	2	2	6	4	1	0	1	3	5	0
	0530	"	1005.7	1003.2	...	26.6	24.8	23.9	29.7	85	...	6.2 (g)	...	8.8 (g)	0	0	23	3	4	11	2	0	0	1	2	1	0
	0830	"	1007.5	1005.0	-2.0	28.1	25.6	24.6	30.7	81	+7	6.3 (g)	+1.4	6.7 (g)	0	0	31	6	2	14	7	0	0	0	2	0	0
	1130	"	1007.6	1005.3	...	30.1	26.1	24.5	30.7	73	...	5.6 (g)	...	9.2 (g)	0	1	23	1	0	1	4	2	4	5	7	0	0
	1730	"	1004.8	1002.4	...	30.9	26.4	24.8	31.0	74	...	6.7 (g)	...	21.7 (g)	0	3	28	0	0	2	2	2	6	8	11	0	0
	2330	"	1007.3	1004.8	...	28.7	25.5	24.3	30.4	78	...	6.2 (g)	...	12.2 (g)	0	2	22	2	2	6	2	3	0	3	6	0	0
Mangalore (Bajpe Aerodrome)	0530	103	1006.0	994.3	...	25.5	24.3	23.8	29.5	91	...	6.0	...	5.2	0	0	19	2	1	8	4	1	0	1	2	12	0
	0830	"	1007.5	996.0	...	27.5	25.3	24.4	30.5	83	...	6.2	...	6.0	0	1	25	1	2	15	6	0	1	0	1	5	0
Interior Mysore (North) Bidar	1730	"	1004.7	993.2	...	29.8	25.8	24.4	30.5	76	...	6.9	...	12.9	0	4	26	1	0	2	4	2	4	11	6	1	0
	0830	664	1005.2	933.7	...	29.5	22.3	17.9	20.5	55	+8	3.0	+0.6	17.5	0	9	22	1	2	0	2	1	7	7	11	0	0
	1730	"	998.5	929.1	...	37.0	23.8	16.2	18.5	33	...	3.9	...	14.6	0	4	27	1	6	7	4	1	4	1	7	0	0
	0830	458	1005.7	955.9	-0.5	31.0	21.7	16.1	18.3	44	-7	5.1	+3.0	17.2	0	9	22	3	3	5	2	3	6	7	2	0	0
Gulbarga	1730	"	998.7	950.4	...	38.8	21.8	11.1	13.2	22	...	6.1	...	28.4	0	22	9	5	4	7	5	1	1	4	4	0	0
	0830	594	1006.0	941.5	-1.0	29.1	23.7	21.2	25.2	63	+4	5.3	+2.9	4.4	0	0	28	7	1	1	1	3	1	11	3	3	0
Bijapur	0830	594	1006.0	941.5	-1.0	29.1	23.7	21.2	25.2	63	+4	5.3	+2.9	4.4	0	0	29	3	0	7	6	1	2	8	2	2	0
	1730	"	998.7	936.4	...	37.5	26.3	21.7	25.9	41	...	6.5	...	4	0	0	30	4	1	0	1	4	5	12	3	1	0
Belgaum	8330	753	1006.9	925.4	-1.1	25.6	22.6	21.2	25.2	77	+1	3.3	+0.1	5.4	0	0	30	4	1	0	1	4	5	12	3	1	0
	1730	"	1002.2	922.0	...	29.7	23.5	20.3	23.8	62	...	6.0	...	13.9	0	0	31	0	0	1	1	2	3	21	3	0	0
Belgaum (Sambre Aerodrome)	0530	747	1005.7	924.2	...	23.8	22.1	21.4	25.4	73	...	3.5	...	4.4	0	1	15	0	0	1	0	1	4	10	0	15	0
	0830	"	1006.7	925.7	...	26.3	22.5	20.9	24.5	73	...	4.2	...	6.6	0	0	20	0	1	0	1	1	4	8	5	11	0
	1130	"	1005.2	925.5	...	30.8	23.2	19.9	22.9	54	...	3.9	...	10.1	0	3	20	1	4	2	2	4	1	7	2	8	0
	1730	"	1001.8	922.4	...	30.9	23.9	20.9	24.6	58	...	5.2	...	20.8	0	17	14	1	0	2	0	2	5	15	6	0	0
Gadag	0830	650	1006.6	936.2	-0.6	28.1	23.7	21.8	26.1	69	-5	3.9	+0.9	7.7	0	0	26	0	2	1	0	1	6	14	2	5	0
	1730	"	1000.6	932.0	...	34.5	25.1	20.9	24.7	47	...	5.2	...	9.5	0	3	23	1	4	7	1	0	7	5	1	5	0
Gadag (P. B. O.)	0530	661	1005.4	933.1	...	24.5	22.0	20.9	24.7	81	...	4.1	...	...	0	4	24	0	0	0	0	1	10	15	2	3	0
	0830	"	1006.3	934.5	...	27.2	22.7	20.8	24.6	69	...	4.3	...	...	0	7	20	1	1	1	0	1	9	13	1	4	0
	1130	"	1004.6	934.2	...	32.8	22.7	18.3	21.0	44	...	3.8	...	...	0	3	19	1	2	2	0	2	3	10	2	9	0
	1730	"	1000.0	930.3	...	34.0	22.0	16.1	18.3	38	...	5.4	...	...	0	6	21	2	2	8	1	0	5	7	2	4	0
	2330	"	1005.7	933.8	...	26.7	22.9	21.4	25.5	73	...	4.9	...	...	0	7	24	1	0	0	1	0	9	16	4	0	0
	0830	400	1005.7	962.3	-0.1	30.6	25.9	23.4	28.8	68	+12	3.6	+1.3	5.1	0	0	29	5	0	2	7	5	2	6	2	2	0
Raichur	1730	"	999.9	957.2	...	37.5	29.7	26.0	33.6	57	...	3.7	...	6.4	0	0	28	2	3	3	8	5	2	3	2	3	0
	0830	449	1005.8	956.8	-1.2	29.7	25.5	23.7	29.3	71	+16	3.6	+0.2	6.5	0	0	31	1	1	0	8	0	3	0	18	0	0
Interior Mysore (South) Bellary	1730	"	999.3	951.9	...	37.0	28.0	24.0	29.8	49	...	5.3	...	7.3	0	0	31	1	0	0	16	1	4	0	9	0	0
	0830	733	1006.5	926.9	-1.3	26.2	22.1	20.1	23.5	69	-2	5.1	+0.9	7.6	0	0	29	0	0	1	0	1	13	14	0	2	0
Chitaldrug	1730	"	1000.4	923.1	...	33.3	22.4	16.3	18.5	38	...	5.3	...	5.5	0												

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—MAY, 1959 (VAISAKHA 11—JYAISHTA, 10,1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Interior Mysore (South)— Bangalore (Central Observatory—Contd.)	1130	921	1498.8	907.4	...	29.8	22.0	18.0	20.6	50	...	4.6	...	9.0	0	0	31	1	2	2	6	2	4	9	5	0	0
	1730	"	1469.4	904.2	...	30.3	21.6	16.8	19.1	46	...	5.9	...	10.5	0	1	29	2	0	4	11	0	2	8	3	1	0
Bangalore (Aerodrome)	0530	897	1472.7	908.7	...	22.3	21.3	20.7	24.4	91	...	4.6	...	8.5	0	1	19	0	0	4	2	0	10	3	1	11	0
	0830	"	1492.7	910.1	...	25.2	22.3	21.0	24.9	78	...	5.2	...	11.5	0	3	24	0	0	1	4	2	6	13	1	4	0
	1130	"	1500.8	910.0	...	30.0	23.9	21.1	25.0	60	...	5.4	...	13.0	0	6	19	0	0	4	3	2	5	10	1	6	0
	1730	"	1470.8	906.7	...	31.2	23.4	20.1	23.5	54	...	5.9	...	16.0	0	6	22	1	3	7	4	1	5	5	2	3	0
	2330	"	1487.2	909.7	...	24.5	22.1	20.9	24.7	81	...	4.0	...	11.1	0	4	18	0	0	4	1	0	12	4	1	9	0
Kerala Kozhikode	0530	5	1006.2	1005.7	...	26.2	24.9	24.3	30.4	89	...	5.7	...	5.1	0	0	28	4	9	11	1	0	2	0	1	3	0
	0830	"	1007.7	1007.2	-1.5	28.3	25.9	24.9	31.5	82	+2	5.7	+0.7	3.5	0	0	24	3	3	10	3	2	1	0	2	7	0
	1130	"	1007.9	1007.4	...	31.3	27.4	25.9	33.4	73	...	5.6	...	8.6	...	1	30	0	1	1	3	1	14	6	5	0	0
	1730	"	1005.3	1004.8	...	30.1	27.0	25.8	33.2	78	...	6.3	...	11.3	0	1	30	2	2	1	2	2	3	9	10	0	0
	2330	"	1007.8	1007.3	...	27.4	25.7	25.0	31.7	87	...	5.9	...	8.5	0	1	28	3	9	9	1	1	1	2	3	2	0
Palghat	0830	97	1007.8	996.8	...	28.3	25.4	24.1	30.0	78	...	6.1	...	9.5	0	0	30	0	0	7	0	0	2	19	2	1	0
	1730	"	1004.4	993.6	...	30.2	25.7	23.5	28.9	70	...	7.0	...	14.9	0	5	26	0	1	1	0	0	2	22	5	0	0
Fort Cochin	0830	3	1007.7	1007.4	-1.9	28.8	26.1	24.9	31.5	80	0	6.7	+1.7	6.6	0	0	25	0	8	10	6	0	0	1	0	6	0
	1730	"	1005.3	1005.0	...	28.9	26.2	25.1	31.9	80	...	7.1	...	7.0	0	1	25	1	2	2	2	1	3	10	5	5	0
Cochin (Naval Air Station)	0230	3	1006.5	1006.2	...	26.3	24.9	24.3	30.4	89	...	5.8	...	3.1	0	0	14	0	2	5	3	2	1	1	0	17	0
	0530	"	1006.5	1006.2	...	26.0	24.9	24.4	30.5	91	...	6.2	...	4.0	0	1	14	0	3	5	4	3	0	0	0	16	0
	0830	"	1008.8	1007.7	...	28.2	25.8	24.9	31.5	82	...	6.0	...	5.5	0	2	14	0	2	5	5	2	0	0	2	15	0
	1130	"	1008.0	1007.7	...	30.8	26.5	24.7	31.1	71	...	6.6	...	12.2	0	2	27	1	0	0	2	5	6	6	9	2	0
	1730	"	1005.7	1005.4	...	28.9	25.8	24.5	30.7	79	...	7.3	...	13.2	0	4	23	1	0	1	2	3	4	10	6	4	0
Allipwey	0830	4	1007.7	1007.3	...	28.9	26.7	25.7	33.0	84	...	6.6	...	8.7	0	3	28	0	4	10	9	1	2	2	3	0	0
	1730	"	1005.0	1004.6	...	29.9	26.9	25.7	33.0	79	...	7.1	...	15.7	0	8	23	2	0	0	3	2	4	11	9	0	0
	0830	34	1007.8	1004.0	...	26.5	25.3	24.7	31.1	91	...	5.9	...	1.4	0	0	11	2	2	1	2	3	0	0	1	20	0
	1730	"	1005.4	1001.6	...	28.8	25.9	24.7	31.1	80	...	6.5	...	4.6	0	0	25	3	1	3	1	3	5	5	4	6	0
	0230	64	1006.3	999.0	...	25.7	24.9	24.6	30.9	94	...	4.5	...	4.9	0	0	31	9	10	4	4	0	0	1	3	0	0
Trivandrum	0530	"	1006.5	999.2	...	25.3	24.7	24.4	30.5	94	...	5.7	...	5.1	0	0	30	10	11	3	2	1	0	0	3	1	0
	0830	"	1008.3	1001.0	-1.1	27.3	25.7	25.1	31.9	87	+6	6.4	+1.0	3.9	0	0	31	4	9	3	3	2	0	3	7	0	0
	1130	"	1008.0	1000.8	...	29.6	26.1	24.6	30.9	75	...	6.9	...	6.1	0	0	31	2	2	1	4	3	5	5	9	0	0
	1730	"	1005.7	998.4	...	28.4	25.8	24.7	31.1	81	...	7.2	...	5.0	0	0	30	1	2	1	4	1	9	4	8	1	0
	2330	"	1008.0	1000.7	...	26.1	25.1	24.7	31.1	92	...	5.8	...	6.0	0	0	31	7	9	4	2	0	1	2	6	0	0
Trivandrum (Aerodrom) Arabian Sea Islands Mimicoy*	0830	8	1003.1	1007.2	...	28.1	25.9	24.7	31.1	83	...	6.8	...	6.3	0	2	19	13	0	0	0	3	2	2	1	10	0
	0530	2	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	0430	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1130	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Amini Divi* Hill Stations excluding Kashmir	0330	4	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	0830	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Walong (R)	0830	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Kohima	0830	1406	1529.5	862.4	...	21.2	18.8	17.3	19.8	60	...	6.1	...	...	0	0	31	5	6	3	6	1	0	6	4	0	0
	1730	"	1519.5	861.3	...	21.5	17.6	15.2	17.0	73	...	5.1	...	...	0	0	31	1	2	2	3	1	0	12	10	0	0
Aijal	0830	"	"	"	"	21.0	19.0	17.9	20.8	84	...	5.8	...	5.8	0	0	31	1	2	3	3	10	2	10	0	0	0
	1730	"	"	"	"	23.7	20.2	18.3	20.9	73	...	4.4	...	4.9	0	0	31	2	0	0	1	6	9	13	0	0	0
Shillong	0830	1500	1465.3	846.9	-0.9	20.8	17.4	15.2	17.5	72	+4	5.4	+0.4	6.0	0	0	17	1	0	0	0	5	11	0	0	14	0
	1730	"	1436.5	844.0	...	20.5	17.3	15.2	17.3	73	...	4.5	...	4.5	0	0	18	0	0	0	0	5	11	2	0	13	0
Cherrapunji	0830	1313	1472.0	866.0	-0.8	19.0	18.1	17.5	20.2	92	+13	6.0	+0.2	5.5	0	0	31	0	1	0	0	0	30	0	0	0	0
	1730	"	1445.9	863.0	...	20.0	19.3	18.6	22.0	93	...	5.1	...	5.5	0	0	31	0	0	0	0	0	31	0	0	0	0
Darding (Raj Bhawan)	0830	2127	1491.4	789.7	+2.2	16.3	14.4	13.2	15.9	82	+2	6.9	+0.7	0.2	0	0	2	0	0	0	1	0	0	0	1	29	0
	1730	"	1454.9	786.1	...	15.7	14.3	13.2	15.5	86	...	6.9	...	1.9	0	0	13	0	0	0	0	0	6	5	2	18	0
Kalimpong	0830	1209	1461.7	875.4	-1.4	21.0	19.8	19.5	21.7	86	+7	2.2	-2.0	3.0	0	0	31	0	0	0	1	0	0	0	30	0	0
	1730	"	1453.6	874.8	...	22.3	19.8	19.2	21.9	87	...	2.4	...	3.0	0	0	31	0	0	0	30	0	0	0	1	0	0

MONTHLY MEANS OF UPPER WINDS
MAY, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data upto 9.0 km. a. m. s. l. are given under Table IV and data above 9.0 km. a. m. s. l. under Table V.

In Tables IV and V :

n—represents the number of observations,

V—represents the mean wind speed in metres per second* irrespective of direction,

v—represents the resultant mean velocity in metres per second*,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km. a. g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a. m. s. l. Of these, the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a. m. s. l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

Particulars of Pilot Balloon and Rawin Stations in India

Station	Lat. N	Long. E	Height of Anemometer head a. m. s. l. in metres	Date of opening	Approximate times of flight (IST)
Agartala	23°53'	91°15'	17	28th November 1951	0530 1130 1730 2330
Ahmedabad	23°04'	72°38'	61	19th May 1928	0530 1730 2330
Amausi	26°45'	80°53'	132	20th November 1950	0530 1730 2330
Ambala	30°23'	76°46'	279	1st April 1941	0530 1730 2330
Amritsar	31°38'	74°52'	243	21st June 1957	0530* 1730*
Anantapur	14°41'	77°37'	364	12th February 1946	0530 1730 2330
Asansol	23°41'	86°59'	135	29th May 1942	0530 1130 1730 2330
Baghdogra	26°38'	88°19'	140	7th June 1953	0530 1130 1730 2330
Bairagarh	23°17'	77°21'	532	26th February 1943	0530 1730 2330
Bamrauli	25°27'	81°44'	103	28th February 1930	0530* 1130 1730* 2330
Bangalore	12°58'	77°35'	936	19th May 1915	0530 1730 2330
Bareilly	28°22'	79°24'	180	12th January 1943	0530 1730
Begumpet	17°27'	78°28'	543	1st September 1929	0530 1730 2330
Bhagalpur	25°14'	86°57'	61	19th May 1950	0530 1130 1730
Bhubaneshwar	20°15'	85°50'	54	5th December 1942	0530 1130 1730 2330
Bhuj	23°15'	69°48'	90	14th September 1937	0530 1730 2330
Bikaner	28°00'	73°18'	229	18th October 1946	0530 1730 2330
Chikalhana	19°51'	75°24'	583	7th October 1951	0530 1730 2330
Cochin†	09°56'	76°14'	13	16th March 1942	0530 1730 2330
Darjeeling	27°03'	88°16'	2115	21st May 1956	0830 1730
Dehra Dun	30°19'	78°03'	692	1st October 1958	0530 1730
Dum Dum	22°39'	88°27'	13	14th May 1921	0530* 1130 1730* 2330
Gadag	15°25'	75°38'	650	3rd May 1943	0530 1730 2330
Gannavaram	16°32'	83°48'	34	8th April 1942	0530 1730 2330
Gauhati	26°05'	91°43'	51	12th March 1955	0530* 1130 1730* 2330
Gaya	24°45'	84°57'	119	19th March 1937	0530 1130 1730 2330
Gopalpur	19°16'	84°53'	24	15th February 1946	0530 1730 2330
Gorakhpur	26°45'	83°22'	83	5th January 1943	0530 1730
Gwalior	26°14'	78°15'	208	7th May 1938	0530 1730 2330
Imphal	24°51'	93°58'	805	8th March 1952	0530 1130 1730 2330
Jabalpur	23°10'	79°57'	402	30th July 1928	0530 1730 2330
Jagdarpur	19°05'	82°02'	562	25th March 1948	0530 1730 2330
Jaipur	26°49'	75°48'	404	6th June 1953	0530 1730
Jamshedpur	22°49'	86°11'	147	23rd July 1942	0530 1130 1730
Jharsuguda	21°55'	84°05'	240	1st May 1944	0530 1730 2330
Jodhpur	26°18'	73°01'	229	15th October 1934	0530* 1130 1730* 2330
Madras	13°00'	80°11'	29	8th April 1926	0530* 1130 1730* 2330
Mangalore	12°52'	74°51'	40	4th June 1928	0530 1730 2330
Minicoy	08°18'	73°00'	16	14th April 1941	0530 1730 2330
Mohanbari	27°29'	95°01'	112	1st June 1948	0530 1130 1730 2330
Nagpur	21°06'	79°03'	316	23rd April 1943	0530* 1130 1730* 2330
Nanpara	27°50'	81°30'	142	23rd April 1957	0530 1730
New Delhi	28°35'	77°12'	227	20th October 1936	0530* 1130 1730* 2330
Poona	18°32'	73°51'	593	5th January 1925	0530 1730 2330
Port Blair	11°40'	92°43'	93	29th October 1945	0530* 1130 1730* 2330
Raipur	21°14'	81°39'	308	15th July 1944	0530 1730 2330
Raxaul	26°59'	84°51'	83	28th October 1957	0530 1130 1730
Santa Cruz	19°07'	72°51'	27	14th May 1933	0530* 1130 1730* 2330
Tezpur	26°37'	92°47'	79	12th August 1932	0530 1130 1730 2330
Tiruchirappalli	10°46'	78°43'	96	22nd June 1936	0530 1730 2330
Trivandrum	08°29'	76°57'	73	8th December 1928	0530* 1130 1730* 2330
Udaipur	24°35'	73°42'	587	24th June 1947	0530 1730 2330
Vengurla	15°52'	73°38'	8	22nd November 1941	0530 1730 2330
Veraval	20°54'	70°22'	17	13th October 1941	0530* 1130 1730* 2330
Visakhapatnam	17°43'	83°14'	10	24th September 1928	0530 1730 2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

MAY 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	AGARTALA																AHMEDABAD							
	0530				1130				1730				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.6	2.2	155	31	4.6	4.2	176	31	3.8	3.3	165	31	3.4	3.0	165	31	3.0	2.0	089	31	4.7	3.7	264
0.15 a. g.	31	6.8	6.2	162	31	6.3	5.7	173	31	7.2	6.3	163	29	7.6	6.8	169	31	7.8	6.0	285	31	6.3	5.2	268
0.3 a. m. s. l.	31	9.6	9.1	182	31	7.2	6.6	176	31	8.1	7.4	170	29	8.7	8.2	182	31	8.7	6.6	292	31	6.3	5.2	263
0.6 „	30	10.7	10.0	196	31	9.0	8.6	186	29	10.1	9.6	185	29	9.4	9.0	192	31	9.9	7.5	294	31	6.7	5.8	263
0.9 „	29	10.8	10.0	203	30	9.6	9.2	195	29	9.7	9.4	197	27	8.4	8.0	208	28	8.9	6.9	293	31	7.8	6.8	272
1.5 „	24	9.3	6.2	223	18	8.3	8.0	216	30	7.1	6.5	228	23	7.4	6.7	246	24	5.8	4.7	282	30	7.8	6.8	269
2.1 „	24	9.6	8.4	252	6	7.1	6.6	250	27	8.2	7.5	261	19	8.0	7.1	273	22	5.7	4.7	262	30	7.6	6.4	272
3.0 „	18	10.7	10.3	295	3	7.1	5.7	257	25	11.3	10.7	284	12	11.4	10.6	285	19	6.8	4.8	248	28	7.2	5.6	272
3.6 „	7	10.9	8.9	285					23	12.8	12.3	285	3	10.3	10.2	298	5	7.8	5.1	242	25	7.8	5.1	209
4.5 „	5	12.1	11.2	288					18	13.1	12.5	288	1	9.3	9.3	290					23	8.2	4.3	258
5.4 „	4	9.0	8.1	295					11	10.8	10.2	255									23	8.0	3.5	295
6.0 „	4	10.4	9.6	284					9	12.6	10.9	293									19	7.6	3.9	298
7.2 „	2	13.4	12.4	260					8	12.9	12.1	293									12	8.0	3.0	304
9.0 „	1	8.2	8.2	305					3	9.1	7.3	263									1	17.0	17.0	310

Station	AHMEDABAD				AMAUSI												AMBALA							
	2330				0530				1730				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	4.2	3.0	255	31	1.8	0.5	337	31	3.0	2.3	299	31	1.9	0.2	318	31	2.6	0.8	108	31	2.4	1.0	267
0.15 a. g.	30	9.6	7.2	263	31	7.5	2.1	316	31	5.4	3.4	292	30	7.4	2.5	323	31	7.9	1.4	081	31	5.6	2.6	264
0.3 a. m. s. l.	30	11.2	8.6	261	31	7.5	2.1	313	31	5.4	3.6	296	30	7.8	2.4	331	31	4.2	0.9	090	31	3.3	1.4	269
0.6 „	30	10.7	8.6	270	30	8.1	2.6	306	31	6.4	4.5	292	30	8.1	3.5	318	31	8.0	1.1	111	31	6.2	3.0	263
0.9 „	30	9.3	7.9	276	30	7.6	3.9	290	31	6.5	4.9	289	30	8.1	4.0	305	31	8.2	0.6	165	31	6.1	3.0	263
1.5 „	29	6.5	5.8	283	29	7.3	6.4	294	29	6.8	6.3	282	23	7.4	6.7	300	30	6.6	1.2	268	31	6.4	3.7	271
2.1 „	28	5.6	4.8	276	28	9.1	8.6	295	24	7.7	7.4	285	17	8.7	7.7	794	29	6.2	3.2	281	30	6.4	3.9	279
3.0 „	22	5.1	2.9	268	15	9.9	8.8	297	22	10.6	10.3	291	8	10.9	9.3	303	25	7.8	4.9	280	30	7.3	4.3	297
3.6 „					8	10.2	9.8	301	19	12.5	12.0	296	1	14.4	14.4	300	16	8.9	7.4	300	29	9.0	5.8	307
4.5 „					4	8.0	7.6	303	16	14.1	13.3	301					8	9.9	7.7	297	25	12.5	5.5	318
5.4 „					4	11.0	9.7	285	11	14.1	13.4	304					6	11.6	10.6	307	23	12.8	9.4	282
6.0 „					3	8.2	7.8	292	7	12.8	12.0	303					6	10.0	9.4	313	20	13.5	11.4	286
7.2 „					2	13.6	13.6	312	4	12.3	11.9	279					3	16.0	15.1	317	15	17.5	16.0	283
9.0 „									2	19.8	19.8	292					2	23.9	23.4	297	6	26.7	24.3	291

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	AMBALA				AMRITSAR				ANANTAPUR																			
	2330				0530*				1730*				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.9	0.2	028	31	3.0	0.2	263	31	3.1	1.4	305	31	3.2	2.4	255	31	4.5	1.1	078	31	5.0	0.9	172				
0.15 a. g.	31	8.6	1.6	327	29	3.0	3.0	252	31	3.1	1.0	319	31	6.6	0.4	235	30	6.2	1.7	102	28	9.6	2.9	191				
0.3 a. m. s. l.	31	4.1	0.4	359	29	2.9	0.4	278	31	3.1	1.0	319																
0.6 "	31	8.1	1.7	333	29	7.1	1.2	301	31	6.5	3.1	290	31	6.8	4.1	249	30	6.3	1.8	105	28	10.2	3.1	200				
0.9 "	31	6.9	2.3	324	29	6.3	2.0	278	31	5.8	3.0	287	31	7.7	7.6	253	30	6.6	1.5	089	28	10.4	3.2	173				
1.5 "	31	5.7	2.9	312	29	6.1	1.9	296	31	5.4	3.0	274	31	7.0	2.9	247	30	6.1	1.8	080	28	8.0	2.9	153				
2.1 "	29	5.3	3.3	300	29	6.7	2.5	305	31	5.8	2.7	275	31	5.5	1.4	096	30	6.3	2.4	080	28	5.3	2.2	118				
3.0 "	22	6.8	3.8	286	29	8.1	3.3	293	31	7.4	2.0	269	30	7.8	5.3	092	30	7.1	3.9	079	27	6.2	4.3	088				
3.6 "	7	6.7	5.0	280	28	9.1	4.3	288	31	8.7	5.6	274	29	10.0	7.7	087	30	7.5	5.0	083	23	8.2	7.2	083				
4.5 "	6	9.8	8.9	288	28	10.7	6.3	288	31	9.3	5.7	277	29	9.4	6.5	077	27	6.5	5.0	081	19	9.5	2.9	083				
5.4 "	3	9.1	8.4	302	27	12.6	8.1	272	29	11.0	8.3	282	24	9.3	7.6	088	25	6.8	4.4	087	14	8.1	4.4	082				
6.0 "	3	11.5	10.6	309	26	13.2	10.3	272	29	12.9	10.8	244	23	8.7	4.8	089	22	6.9	3.4	085	6	6.4	4.4	004				
7.2 "					26	18.7	16.4	216	29	17.3	14.7	287	17	7.8	3.5	118	16	6.5	2.2	081	1	6.2	6.2	100				
9.0 "					24	26.5	24.0	274	23	24.2	21.1	287	6	5.8	3.7	270	12	5.0	2.0	080								

Station	ASANSOL				BAGHDGRA																							
	0530				1130				1730				2330				0530				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.9	1.5	132	31	1.9	0.3	127	31	1.9	0.5	355	31	2.6	2.0	133	30	3.0	2.6	064	31	4.5	4.0	085				
0.15 a. g.	30	4.9	2.9	166	31	4.5	0.3	276	31	4.9	1.5	328	31	6.5	4.1	154	26	7.0	6.5	070	28	5.1	4.9	087				
0.3 a. m. s. l.	30	5.0	2.9	182	31	4.5	0.4	267	31	4.9	1.6	325	31	6.8	4.3	162	26	7.0	6.6	076	28	5.2	5.0	087				
0.6 "	30	5.8	2.6	233	31	3.8	1.3	242	31	5.5	1.8	327	31	6.8	3.4	166	25	7.6	7.3	085	26	6.6	6.4	089				
0.9 "	30	6.8	3.4	274	30	4.1	1.9	240	31	5.8	2.4	315	30	5.8	1.3	182	20	7.3	6.6	080	17	6.5	6.0	085				
1.5 "	27	7.8	5.2	300	26	5.4	4.2	279	31	5.7	4.1	278	28	6.0	3.3	314	15	5.9	2.9	090	5	4.6	3.1	102				
2.1 "	26	8.6	7.4	300	23	7.6	6.8	286	30	7.6	6.3	288	27	6.8	6.2	305	10	7.7	5.0	266	2	4.1	3.9	235				
3.0 "	20	10.8	10.4	294	8	8.2	6.4	281	28	9.2	8.6	292	21	11.3	10.7	293	6	8.4	8.2	283	2	9.8	9.1	262				
3.6 "	9	11.3	10.7	297					25	10.9	10.4	285	18	12.6	12.2	285	5	11.5	11.2	277								
4.5 "	5	12.4	12.1	293					19	13.8	13.4	280	6	13.5	13.2	293	3	12.9	11.3	263								
5.4 "									11	12.9	12.8	290	1	9.8	9.8	275												
6.0 "									6	10.9	10.6	292																
7.2 "									3	10.8	9.9	310																
9.0 "									2	13.7	13.3	310																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1884 SAKA)

Station	BAGHDODGRA								BAIRAGARH												BAMRAULI											
	1730				2330				0530				1730				2330				0530*											
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.3	2.6	083	31	3.3	3.0	065	31	2.9	2.0	295	31	4.6	3.9	182	31	3.0	2.0	287	31	1.5	0.4	316								
0.15 a. g. . .	31	4.5	3.6	081	27	6.2	5.9	072	31	8.9	6.5	298	31	5.7	4.4	279	31	7.6	5.3	284	30	6.7	1.6	260								
0.3 a. ms. l. .	31	4.5	3.8	085	27	6.2	6.0	075													30	6.7	1.6	260								
0.6 " . . .	31	5.4	4.2	082	27	6.4	6.2	088	31	8.0	5.5	293	31	5.5	4.3	280	31	7.1	4.7	282	30	6.5	2.4	297								
0.9 " . . .	29	5.7	4.0	085	24	4.7	4.4	098	31	10.1	8.3	305	31	6.4	5.1	282	31	7.8	6.2	290	30	6.4	3.2	297								
1.5 " . . .	20	5.3	1.7	220	19	6.7	2.0	256	30	8.5	7.6	310	31	6.4	5.3	287	31	7.5	6.4	294	30	7.3	5.7	295								
2.1 " . . .	16	8.9	6.9	260	12	8.6	7.4	272	29	6.6	5.3	300	31	6.4	5.7	289	29	5.9	5.0	293	30	8.4	7.7	292								
3.0 " . . .	12	9.6	8.6	275	2	11.8	11.7	293	26	6.8	4.4	276	30	7.1	6.3	288	27	5.6	4.0	283	30	11.2	10.2	288								
3.6 " . . .	10	9.4	8.4	282					19	7.5	5.1	268	27	7.6	6.3	286	8	4.8	4.2	292	30	11.6	10.2	286								
4.5 " . . .	5	10.3	10.0	292					11	7.8	5.8	283	22	7.8	6.0	286	3	5.5	4.7	280	31	11.3	10.3	289								
5.4 " . . .	1	17.0	17.0	280					8	9.1	7.8	323	19	7.9	6.2	292					31	12.6	11.2	278								
6.0 " . . .	1	18.0	18.0	275					8	10.3	8.8	323	15	9.1	7.4	301					31	12.6	11.3	277								
7.2 " . . .									2	14.2	11.9	319	31	11.8	9.7	313					31	14.1	12.3	277								
9.0 " . . .									1	5.1	5.1	325	3	16.2	16.0	275					26	19.1	17.1	275								

Station	BAMRAULI												BANGALORE															
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.3	2.2	293	31	3.5	2.6	322	31	1.4	0.8	093	31	3.5	1.8	238	31	4.0	0.5	128	31	4.0	1.9	208				
0.15 a. g. . .	29	4.6	3.2	300	29	6.9	4.5	312	31	7.3	2.4	005	28	5.6	3.4	230	31	5.3	0.7	216	29	6.8	3.4	182				
0.3 a. ms. l. .	29	4.8	3.3	298	29	6.9	4.5	312	31	7.5	2.5	007																
0.6 " . . .	29	5.3	4.0	301	29	7.3	4.9	302	31	7.5	2.3	352																
0.9 " . . .	29	5.3	3.2	313	29	7.2	5.3	298	31	7.0	3.6	307																
1.5 " . . .	29	6.0	5.7	290	29	7.7	7.0	289	27	6.8	5.6	304	27	5.4	2.8	213	30	6.1	0.3	226	29	6.8	2.9	188				
2.1 " . . .	24	8.2	7.8	287	29	9.4	9.3	283	23	9.2	8.7	293	26	4.9	2.6	082	28	5.2	1.3	068	28	4.8	2.0	086				
3.0 " . . .	22	11.1	10.4	286	29	10.6	10.1	281	14	10.8	10.7	290	23	6.9	5.6	088	25	5.9	4.3	078	22	5.8	4.1	061				
3.6 " . . .	20	12.5	11.7	282	29	11.2	10.4	283	5	14.2	13.2	286	15	6.8	6.2	088	23	6.7	5.8	083	15	7.4	5.5	069				
4.5 " . . .	18	12.6	11.9	277	29	12.0	11.1	285					7	7.3	4.1	080	17	6.5	4.2	082	7	8.4	2.4	070				
5.4 " . . .	16	12.9	11.6	290	29	12.4	12.0	288					2	8.2	5.2	087	13	6.0	3.8	102	4	5.7	2.3	039				
6.0 " . . .	15	12.8	11.2	291	29	12.6	11.9	283					2	8.7	3.0	055	9	7.1	5.4	109	1	1.0	1.0	360				
7.2 " . . .	8	13.4	10.5	296	28	14.2	12.1	282									9	6.0	4.6	116	1	5.1	5.1	380				
9.0 " . . .	1	29.3	29.3	265	22	18.0	15.7	271									5	7.5	5.3	077								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	BAREILLY								BEGUMPET												BHAGALPUR							
	0530				1730				0530				1730				2330				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.5	0.6	037	31	2.9	2.0	286	31	3.1	1.9	265	31	4.3	1.3	314	31	4.0	1.7	173	31	2.6	1.9	084				
0.15 a. g.	31	7.2	2.7	338	31	5.5	3.6	285	31	6.5	3.3	256	30	4.9	1.2	344	31	7.5	3.4	173	26	5.6	2.7	102				
0.3 a. ms. l.	31	6.3	2.4	328	31	5.2	3.4	288													26	5.8	2.9	127				
0.6 „	31	9.1	3.5	320	31	6.6	4.5	281	31	4.5	2.3	263	30	4.7	1.0	328	31	5.0	2.1	172	25	7.7	2.6	229				
0.9 „	31	8.8	4.0	314	31	6.7	4.6	284	31	8.1	3.7	263	30	5.0	1.1	356	31	8.1	3.7	170	23	7.9	4.2	268				
1.5 „	28	7.5	5.4	302	31	6.6	5.7	285	31	7.4	3.0	248	30	4.6	1.4	033	31	6.8	2.6	185	19	9.6	8.2	286				
2.1 „	28	7.6	6.9	297	30	7.3	6.9	286	31	5.2	0.7	217	30	5.0	1.6	036	31	5.1	0.4	128	17	9.7	9.0	285				
3.0 „	25	9.0	8.0	294	30	9.8	9.1	296	31	5.1	2.6	066	29	6.0	2.6	044	29	4.9	2.6	062	11	12.2	11.8	274				
3.6 „	18	8.8	7.7	290	29	11.7	10.8	297	26	6.4	4.7	062	27	6.6	3.3	052	13	6.7	5.1	048	7	12.2	12.0	277				
4.5 „	16	10.4	9.0	287	21	12.8	12.0	302	23	7.5	4.2	062	23	6.3	2.7	039	2	10.8	10.8	012	3	13.7	13.6	285				
5.4 „	10	10.2	9.3	299	19	14.1	13.2	301	15	9.0	2.1	330	16	5.9	1.4	343												
6.0 „	6	10.1	9.7	293	18	14.3	12.9	301	11	10.4	5.5	342	13	5.6	0.8	300												
7.2 „	4	16.5	14.8	283	13	14.7	13.6	295	3	5.7	2.6	207	8	8.1	2.0	247												
9.0 „	1	23.7	23.7	315	6	21.0	18.6	307					4	6.0	4.2	245												

Station	BHAGALPUR								BHUBANESHWAR																			
	1130				1730				0530				1130				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.9	1.4	065	31	3.9	1.6	012	31	7.6	7.0	214	31	7.3	7.1	217	31	9.2	8.2	204	31	7.8	6.3	220				
0.15 a. g.	28	5.2	2.4	074	29	6.7	2.5	360	26	9.7	9.4	202	31	7.9	7.6	205	31	10.5	9.7	196	29	10.1	9.5	206				
0.3 a. ms. l.	28	5.6	2.6	075	29	7.1	2.5	005	26	10.0	9.4	219	31	7.5	7.3	207	31	10.7	10.4	199	29	11.2	10.8	213				
0.6 „	27	6.9	1.5	069	29	7.5	2.4	343	24	10.0	9.1	231	31	7.0	6.6	217	31	9.7	9.2	204	28	11.9	11.4	216				
0.9 „	23	6.5	1.3	286	28	7.2	2.1	311	21	9.8	9.0	246	30	7.1	6.1	247	30	6.5	5.7	214	27	8.8	7.9	219				
1.5 „	18	9.0	6.0	280	25	8.6	6.4	282	19	7.6	6.7	275	26	6.8	6.1	300	29	4.6	3.6	279	26	5.1	4.2	249				
2.1 „	6	9.6	8.7	280	22	10.9	10.1	281	19	6.7	6.3	285	22	6.6	6.2	293	26	5.2	4.6	301	23	4.6	4.1	246				
3.0 „	1	5.1	5.1	275	15	13.8	13.3	281	16	5.3	4.9	314	11	5.0	3.8	282	23	6.9	6.0	306	23	6.4	5.8	323				
3.6 „					14	14.7	14.3	284	11	4.4	3.9	323					18	7.7	6.7	311	5	8.0	6.4	325				
4.5 „					8	12.8	12.4	284	4	4.5	2.5	310					12	7.4	6.7	305	2	6.7	5.6	008				
5.4 „					6	11.9	11.3	280	3	4.5	4.4	280					6	5.5	3.9	324	1	11.3	11.3	325				
6.0 „					6	11.9	11.5	288	2	5.7	5.7	272					6	5.0	3.9	306	1	7.7	7.7	295				
7.2 „					3	13.2	12.6	306	1	6.7	6.7	230					2	4.9	3.4	345								
9.0 „					1	14.9	14.9	305																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	DARJEELING								DEHRA DUN								DUM DUM							
	0530				1730				0530				1730				0530*				1130			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.1	202	31	3.5	3.2	264	31	1.1	0.8	019	31	2.4	1.6	254	31	2.9	2.6	181	31	4.1	3.6	188
0.15 a. g.	8	2.1	0.3	297	1	4.1	4.1	360	31	2.4	1.5	067	30	4.7	3.3	255	31	7.5	6.8	195	31	6.3	5.8	198
0.3 a. ms. l.																	31	8.9	8.1	202	31	6.7	6.3	203
0.6 "																	31	10.0	9.1	215	31	6.7	6.2	210
0.9 "									31	2.4	1.4	073	30	4.9	3.7	253	31	9.5	8.5	229	29	6.5	5.3	229
1.5 "									31	3.0	0.6	250	30	4.9	4.2	250	31	6.8	5.4	256	26	5.7	4.2	283
2.1 "									31	3.7	1.8	266	28	4.7	4.1	258	31	6.3	5.5	279	23	6.7	5.3	296
3.0 "	8	7.0	6.1	268	1	7.2	7.2	315	27	5.7	3.9	293	26	4.7	3.1	270	31	7.3	6.6	293	22	8.9	8.1	292
3.6 "	6	12.3	11.7	270	1	7.7	7.7	295	26	6.6	4.6	295	24	4.2	1.8	287	31	8.7	8.3	294	19	10.1	9.5	292
4.5 "	4	13.6	13.6	271	1	3.6	3.6	305	25	7.7	6.0	287	24	5.9	2.9	322	31	9.4	8.9	297	18	12.7	11.6	298
5.4 "	1	13.9	13.9	295					17	11.0	9.6	271	24	9.4	7.1	285	31	9.0	8.0	290	15	12.3	11.7	298
6.0 "	1	11.8	11.8	295					15	12.7	11.0	270	23	12.3	10.3	278	31	9.6	8.1	287	12	11.5	11.2	301
7.2 "	1	7.7	7.7	320					7	16.8	14.6	283	22	16.2	14.1	278	31	10.6	9.8	283	7	12.2	11.7	294
9.0 "									2	23.9	23.9	309	15	22.6	21.2	271	30	13.0	11.7	282	1	14.4	14.4	315

Station	DUM DUM								GADAG								GANNAVARAM							
	1730*				2330				0530				1730				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.2	3.9	173	31	3.4	3.0	172	31	3.8	3.4	256	31	4.0	0.3	266	31	4.9	4.3	258	31	2.1	1.0	191
0.15 a. g.	31	7.5	6.8	176	30	7.6	6.7	183	31	7.2	5.3	253	31	6.1	1.6	237	31	8.4	6.8	250	31	5.7	4.5	200
0.3 a. ms. l.	31	8.0	7.4	176	30	9.2	8.0	192													31	7.4	6.2	206
0.5 "	31	7.3	6.8	185	29	10.0	9.0	202													31	9.0	7.3	211
0.9 "	31	6.3	5.4	204	27	8.4	7.7	218	31	7.6	4.8	274	31	6.4	1.2	233	31	8.9	6.6	256	28	8.0	5.3	214
1.5 "	31	6.0	4.9	260	22	5.6	4.3	251	29	6.4	1.7	355	30	5.4	0.6	321	30	7.2	1.3	303	28	5.7	1.4	208
2.1 "	31	7.1	6.2	285	18	6.8	6.1	287	29	6.0	3.0	080	27	5.1	2.7	061	30	6.4	3.5	087	27	5.4	2.0	083
3.0 "	31	9.7	9.3	295	13	10.1	9.8	305	27	7.7	6.6	090	25	6.5	3.8	069	29	6.8	5.7	080	23	6.6	5.5	072
3.6 "	31	11.1	10.6	295					22	8.5	7.7	082	20	7.5	5.0	102	26	8.0	6.6	072	22	7.5	6.0	052
4.5 "	31	10.0	9.5	290					8	7.3	6.5	083	14	7.6	6.3	086	16	8.4	7.0	058	20	6.7	5.2	039
5.4 "	31	9.5	9.0	290					2	6.4	6.4	142	8	6.3	3.0	083	6	5.8	2.3	050	18	7.2	4.3	039
6.0 "	31	9.9	9.5	285					2	8.7	8.1	134	6	5.4	1.2	058	1	7.2	7.2	280	15	8.2	3.7	030
7.2 "	31	11.3	10.6	282									3	4.6	2.2	113					7	7.7	2.5	022
9.0 "	29	13.6	12.3	281									1	8.2	8.2	235					2	7.2	6.8	040

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYASTHA 10, 1881 SAKA)

Station	GANNAVARAM								GAUHATI															
	1730				2330				0530*				1130				1730*				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.6	3.1	175	31	4.3	3.8	173	31	1.5	1.1	074	31	2.5	1.8	039	31	2.5	1.8	067	31	2.0	1.1	062
0.15 a. g.	31	5.7	4.2	180	31	6.9	5.8	177	31	4.2	2.8	080	28	4.2	2.7	035	31	4.2	2.7	072	25	4.1	2.6	083
0.3 a. ms. l.	31	5.8	4.3	184	31	7.9	7.1	171	31	4.3	1.9	071	28	4.2	2.3	048	31	4.2	2.3	084	25	4.4	2.4	088
0.6 „	31	4.6	2.9	196	31	7.8	6.6	184	30	4.5	1.6	076	28	3.8	1.4	073	31	3.8	1.4	088	25	4.8	1.9	099
0.9 „	31	3.9	1.8	217	31	5.6	3.7	193	30	5.3	0.4	169	24	3.8	0.7	209	30	3.8	0.7	165	22	4.9	2.8	224
1.5 „	30	4.3	1.4	328	31	4.8	0.7	136	30	8.0	5.3	213	21	7.1	5.5	233	30	7.1	5.5	235	18	8.6	7.2	248
2.1 „	30	6.1	1.7	045	30	4.9	1.8	076	30	9.6	7.8	257	16	10.6	9.5	242	30	10.6	8.3	250	10	6.9	5.8	255
3.0 „	28	7.0	4.1	059	27	6.1	4.0	058	29	13.3	11.6	265	8	13.7	13.2	266	29	13.7	13.2	264	2	4.9	4.0	287
3.6 „	27	7.8	5.0	066	19	6.8	3.9	058	29	15.0	13.1	270	5	14.1	13.4	267	28	15.0	13.8	268				
4.5 „	27	7.5	3.4	049	8	7.3	5.5	054	29	22.0	12.5	270	2	16.2	16.2	287	28	15.4	14.5	272				
5.4 „	26	7.4	2.2	345	4	5.7	4.6	015	29	13.6	9.9	275					28	14.2	13.1	270				
6.0 „	25	7.8	2.8	328					29	12.8	8.6	271					28	14.6	13.5	268				
7.2 „	17	6.8	2.2	337					29	13.0	8.3	265					28	18.3	17.2	270				
9.0 „	13	7.9	4.0	305					23	19.6	17.7	263					20	20.0	19.0	274				

Station	GAYA								GOPALPUR															
	0530				1130				1730				2330				0530				1730			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.5	0.7	122	31	3.7	1.1	322	31	5.0	3.5	336	31	2.7	0.9	074	31	7.8	7.4	206	31	9.7	9.7	205
0.15 a. g.	31	5.5	1.1	182	31	5.9	2.6	296	31	7.6	4.8	330	31	7.9	2.8	012	31	10.9	9.9	193	29	11.9	10.9	205
0.3 a. ms. l.	31	5.3	1.1	254	31	6.0	2.8	297	31	7.5	4.7	329	31	8.1	3.0	085	31	10.6	10.1	228	29	11.9	11.4	215
0.6 „	31	6.8	1.9	277	31	5.1	2.7	295	31	7.9	5.1	323	31	8.6	2.6	353	31	7.5	6.9	233	29	8.3	8.3	217
0.9 „	31	6.9	3.5	286	31	5.1	2.7	289	31	7.7	5.4	315	31	8.0	2.7	326	31	7.3	6.4	247	28	5.6	4.5	233
1.5 „	31	7.0	5.5	295	30	6.2	4.9	287	31	7.7	6.9	298	30	7.7	6.8	302	29	5.6	4.8	257	28	3.6	2.6	269
2.1 „	30	8.4	7.7	297	26	8.6	7.9	290	30	9.4	8.4	286	25	8.1	7.1	295	29	4.3	2.9	276	27	4.0	2.9	295
3.0 „	23	11.3	10.1	291	13	10.5	10.0	286	28	11.7	10.9	282	16	9.3	9.1	283	25	4.9	3.0	330	27	5.3	3.7	327
3.6 „	15	11.6	9.6	282					21	12.9	12.8	276	8	11.3	7.8	275	19	5.3	4.5	350	26	5.4	3.5	332
4.5 „	10	11.4	6.9	310					15	13.5	12.8	281	2	10.8	10.8	277	15	6.7	5.9	329	23	6.0	4.1	335
5.4 „	8	11.3	8.4	350					12	13.4	12.2	290					7	4.5	2.4	310	18	6.4	4.8	314
6.0 „	6	9.6	8.1	335					10	13.6	13.3	295					4	5.0	1.5	260	13	5.8	4.5	281
7.2 „	5	10.2	10.1	324					9	14.3	13.6	293					2	4.1	3.8	254	10	7.4	4.8	295
9.0 „	5	17.3	11.3	331					3	13.4	13.1	300									9	10.5	9.0	291

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	GOPALPUR				GORAKHPUR				GWALIOR															
	2330				0530				1730				2330											
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D								
Surface	31	9.8	9.6	207	31	2.4	1.3	042	31	3.2	1.7	271	31	2.0	1.2	255	31	3.3	2.2	293	31	2.0	1.1	275
0.15 a. g.	31	12.3	12.1	212	30	7.3	2.3	037	31	5.7	3.5	275	31	6.8	3.2	272	31	5.9	4.2	299	30	6.2	3.1	311
0.3 a. m. s. l.	31	12.0	11.7	218	30	8.8	2.1	036	31	6.4	4.1	273	31	5.3	3.0	265	31	5.3	3.6	299	30	4.9	2.3	301
0.6 "	31	8.4	8.3	220	30	9.3	2.0	303	31	7.6	5.1	275	31	8.1	5.1	299	31	6.2	4.7	300	30	7.1	4.1	306
0.9 "	30	5.8	5.1	228	30	9.4	3.9	294	31	8.0	5.3	275	31	7.7	5.5	301	31	6.3	5.0	300	30	7.2	5.6	302
1.5 "	27	3.3	2.5	252	30	10.2	6.8	292	29	8.4	7.7	282	31	7.7	6.9	304	31	7.5	6.4	290	29	7.4	6.5	287
2.1 "	24	3.1	1.8	324	28	11.8	9.7	288	29	9.6	9.4	282	29	8.4	7.8	301	31	8.2	7.3	284	28	8.7	7.7	284
3.0 "	21	4.8	4.8	346	21	12.0	10.8	289	27	11.9	11.7	287	26	10.2	9.4	288	26	9.3	8.3	283	21	7.6	6.9	278
3.6 "	13	5.3	4.9	354	10	12.2	11.6	298	21	11.7	11.3	291	18	9.6	8.1	286	21	9.8	8.0	289	7	7.9	7.2	271
4.5 "	7	5.6	3.4	003	6	13.5	12.7	313	18	11.7	11.2	297	10	10.6	8.0	252	20	12.2	10.0	291				
5.4 "	2	4.4	4.4	358	2	9.3	8.7	328	17	12.6	12.0	294	5	11.2	9.8	313	16	13.1	11.5	295				
6.0 "	1	5.7	5.7	030	2	6.9	5.8	227	17	12.8	12.3	290	2	8.2	8.0	267	13	11.8	10.1	302				
7.2 "					2	11.8	11.8	317	13	15.9	13.7	297	1	17.5	17.5	260	10	12.5	11.0	306				
9.0 "					1	24.2	24.2	320	8	20.0	18.9	289					8	14.6	11.7	291				

Station	IMPHAL												JABALPUR											
	0530				1130				1730				2330				0530		1730					
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface	31	1.3	0.8	248	31	2.5	1.7	205	31	2.4	1.8	242	31	0.9	0.4	262	31	1.5	0.8	262	31	3.4	2.7	296
0.15 a. g.	28	2.3	1.2	223	29	3.8	2.7	224	29	4.5	3.7	244	27	2.5	1.2	235	31	6.0	3.0	259	31	6.0	4.5	297
0.3 a. m. s. l.																								
0.6 "																	31	6.6	3.7	271	31	6.2	4.7	295
0.9 "	28	2.2	1.1	216	29	3.5	2.6	222	29	4.1	3.3	243	27	2.7	0.9	209	31	8.5	5.7	295	31	6.9	5.7	297
1.5 "	27	5.8	4.8	255	29	5.4	4.7	248	28	6.7	6.1	259	25	4.7	4.1	247	30	7.9	6.4	303	31	7.0	6.0	300
2.1 "	21	8.9	8.4	265	23	9.8	9.1	256	26	9.9	9.3	261	24	7.7	6.8	257	29	7.4	6.0	308	31	6.9	6.3	242
3.0 "																	29	7.6	6.0	300				
3.6 "	16	12.7	11.3	280	9	8.6	8.0	262	17	10.8	10.2	271	19	9.2	8.3	079	27	7.7	5.9	282	31	7.2	6.4	296
4.5 "	11	10.6	8.5	292	4	10.8	10.3	273	12	10.6	10.1	276	12	9.5	8.6	278	23	8.7	6.8	277	28	8.5	7.4	291
5.4 "	6	9.6	5.2	298	1	5.1	5.1	295	7	9.2	8.7	285	3	2.2	0.9	232	16	9.8	8.1	282	26	8.7	7.0	288
6.0 "	2	2.6	1.6	267					3	9.1	8.7	285	3	3.9	1.2	301	13	9.5	8.0	285	21	9.8	7.8	295
7.2 "	2	3.3	2.2	281					2	13.9	13.8	272	3	2.2	0.7	165					16	10.8	8.5	307
9.0 "									2	16.5	14.4	275	1	8.2	8.2	270	6	11.2	9.0	272	14	12.0	9.2	310
									1	33.4	33.4	270					3	11.8	10.5	284	8	15.4	11.9	290

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	JABALPUR				JAGDALPUR								JAIPUR															
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	1.0	0.4	215	31	0.9	8.0	197	31	2.3	1.1	230	31	1.4	1.0	194	31	1.9	1.3	325	31	3.7	3.1	273				
0.15 a. g.	31	6.1	2.9	293	31	7.1	6.6	211	30	6.1	3.2	230	31	7.7	6.0	209	31	7.4	4.3	293	31	6.5	5.0	274				
0.3 a. m. s. l.																												
0.6 „	31	6.8	2.9	301	31	3.8	3.4	209	30	4.3	2.2	228	31	4.9	3.8	204	31	8.2	5.5	292	31	6.8	5.3	273				
0.9 „	31	7.5	4.5	300	31	8.9	8.5	227	30	6.1	3.5	245	31	8.0	6.1	221	31	9.6	7.9	288	31	6.8	5.9	270				
1.5 „	31	6.9	5.5	302	31	6.4	5.5	256	28	3.9	3.3	267	30	5.2	4.3	254	29	9.1	8.1	280	31	7.1	6.3	264				
2.1 „	31	7.0	6.1	299	27	5.0	3.2	297	25	5.1	4.4	292	27	4.7	3.5	302	25	8.9	8.4	280	30	7.7	6.8	283				
3.0 „	29	8.0	6.8	291	24	6.2	4.1	354	18	7.2	5.9	319	25	6.0	4.6	341	21	9.9	7.9	278	27	9.1	7.4	281				
3.6 „	20	7.5	5.7	287	14	6.6	5.4	008	16	7.3	5.8	335	6	5.7	4.3	358	14	10.9	7.8	292	26	9.9	8.1	278				
4.5 „	3	4.0	3.5	273	4	4.8	3.7	312	9	7.8	6.2	347	1	2.6	2.6	165	7	11.0	9.8	278	18	11.4	9.6	287				
5.4 „	2	2.8	2.7	311					5	6.4	3.4	327					5	9.4	8.7	275	11	11.5	8.8	289				
6.0 „	1	2.1	2.1	345					3	7.4	3.7	272					2	7.5	6.3	296	10	11.4	9.1	297				
7.2 „																					6	17.7	14.1	293				
9.0 „																					2	21.6	19.5	284				

Station	JAMSHEDPUR								JHARSUGUDA																			
	0530				1130				1730				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	0.8	0.2	163	31	2.0	0.8	281	31	2.1	0.1	063	29	2.1	1.3	157	31	2.4	1.6	243	31	2.6	1.3	193				
0.15 a. g.	31	2.6	1.0	214	30	3.1	1.6	268	31	3.6	0.1	036	29	5.3	3.1	267	29	5.1	3.2	250	28	8.3	4.8	205				
0.3 a. m. s. l.	31	2.7	1.5	212	30	3.1	1.6	269	31	3.7	0.1	127	29	5.0	2.9	087	29	4.9	3.1	247	28	7.1	3.8	196				
0.6 „	31	4.6	3.5	238	31	4.0	1.9	273	31	3.4	0.7	264	29	5.9	3.2	238	29	5.4	4.0	260	28	8.6	5.0	227				
0.9 „	31	5.6	3.2	256	31	4.0	2.2	274	31	3.5	1.4	264	29	6.6	3.9	260	29	5.1	4.2	271	28	7.9	5.1	244				
1.5 „	31	5.8	3.7	294	30	4.6	3.3	279	31	4.2	3.1	283	29	7.0	4.4	289	29	5.3	4.6	284	28	6.5	6.3	295				
2.1 „	31	6.3	5.0	290	26	6.1	5.1	285	31	5.5	5.0	291	29	7.7	6.6	295	28	6.1	5.1	288	28	6.5	6.0	287				
3.0 „	30	7.5	7.1	286	18	8.8	8.1	291	31	8.1	7.6	290	28	8.5	7.5	297	26	7.3	6.8	302	25	7.0	5.5	292				
3.6 „	26	9.2	8.7	278					27	9.6	9.0	291	24	8.5	7.5	297	24	7.6	7.1	304	13	6.6	4.5	310				
4.5 „	18	9.7	9.4	294					23	11.2	11.0	286	8	8.8	7.2	305	17	8.5	7.7	315								
5.4 „	6	8.4	7.2	284					13	12.0	11.7	291					6	11.0	9.4	232								
6.0 „	2	5.1	4.1	332					8	11.8	11.5	292					4	10.0	9.0	251								
7.2 „	1	8.7	8.7	345					3	12.2	10.5	299																
9.0 „	1	9.8	9.8	310					1	20.1	20.1	265																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	JODHPUR												MADRAS															
	0530*				1130				1730*				2330				0530*				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.3	2.5	244	31	4.1	3.2	234	31	5.0	4.1	252	31	3.4	2.4	239	31	2.0	1.7	190	31	3.5	1.7	156				
0.15 a. g.	31	4.8	3.8	248	31	5.2	4.4	236	31	5.4	4.5	251	29	9.1	7.4	242	31	4.5	3.7	187	31	5.5	2.9	175				
0.3 a. m. s. l.	31	4.2	3.3	247	31	4.6	3.8	238	31	5.4	4.5	251	29	7.1	5.8	290	31	6.3	5.3	202	31	5.5	3.3	186				
0.6 "	31	6.4	5.5	251	30	5.4	4.3	232	31	6.6	5.5	250	28	9.8	7.9	249	31	6.7	4.9	220	31	4.9	3.1	213				
0.9 "	31	9.0	7.6	253	30	6.0	4.8	242	31	7.8	6.8	252	26	9.7	8.3	251	31	6.3	4.5	220	31	4.5	2.8	220				
1.5 "	31	8.6	7.6	258	26	7.7	5.7	253	31	8.3	7.3	248	20	8.4	7.3	258	31	4.6	1.6	207	31	4.8	1.7	210				
2.1 "	31	8.1	6.2	261	26	8.8	6.6	254	31	7.5	6.5	253	15	6.4	5.3	262	31	4.1	2.2	075	28	5.5	1.3	081				
3.0 "	31	9.1	5.3	269	24	9.7	6.2	261	31	7.9	6.3	266	10	5.0	3.9	269	31	7.6	5.1	078	28	7.7	5.3	084				
3.6 "	30	9.3	5.4	270	23	10.6	6.0	265	31	8.5	7.1	266	2	3.9	3.1	315	31	7.3	5.1	076	23	7.3	4.6	082				
4.5 "	29	9.6	5.8	280	19	8.8	5.6	262	31	9.6	7.3	272					31	6.2	3.8	066	22	6.8	4.3	064				
5.4 "	29	11.5	8.2	281	17	9.8	7.3	279	30	10.6	8.5	285					31	5.9	2.7	071	19	5.6	1.4	082				
6.0 "	28	12.7	9.6	278	17	11.1	8.4	273	29	11.7	9.2	290					31	5.8	1.7	087	19	6.1	1.4	108				
7.2 "	28	15.6	12.8	281	9	8.0	7.4	298	28	14.8	12.6	294					31	5.6	0.8	118	11	6.6	0.7	119				
9.0 "	20	19.6	17.5	261	1	14.9	14.9	320	22	16.5	14.7	279					31	4.7	1.1	085	3	4.6	1.9	115				

Station	MADRAS				MANGALORE												MINICOY											
	1730*				2330				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	5.1	4.7	148	31	4.5	4.0	176	24	2.7	1.6	076	24	4.8	2.8	260	24	3.7	0.7	105	31	3.0	2.4	275				
0.15 a. g.	31	6.2	5.7	147	29	8.4	8.0	170	20	4.8	1.6	028	21	6.8	3.9	261	24	5.6	0.3	297	31	5.4	4.0	275				
0.3 a. m. s. l.	31	8.6	7.5	147	29	9.3	8.8	176	20	5.2	1.3	358	21	7.2	3.6	262	24	6.3	0.6	271	31	5.4	4.0	273				
0.6 "	31	6.2	4.7	166	29	8.7	8.0	176	20	5.9	1.5	320	21	6.9	3.1	261	24	6.4	1.3	230	31	5.6	4.0	270				
0.9 "	31	4.6	2.3	183	29	6.1	5.0	184	19	6.3	1.1	305	19	4.8	1.4	256	23	5.9	1.9	212	31	5.7	3.3	268				
1.5 "	31	4.0	0.6	311	29	4.4	2.1	201	16	5.0	0.8	332	15	4.5	2.1	110	20	5.2	2.8	148	29	6.4	1.5	270				
2.1 "	31	4.7	1.0	044	29	5.0	2.7	143	13	5.6	3.1	098	11	6.4	4.9	114	17	7.2	5.5	124	27	7.7	0.4	188				
3.0 "	31	6.0	3.5	075	28	6.1	3.8	071	7	8.5	6.2	118	9	8.4	6.4	116	10	7.4	5.9	106	23	6.9	3.0	103				
3.6 "	31	6.3	4.1	071	6	7.7	7.2	075					9	8.7	6.3	114	5	7.3	4.7	120	12	6.1	2.9	116				
4.5 "	31	6.2	4.1	069					6	5.6	1.6	113	1	9.3	9.3	205	7	5.2	3.1	132								
5.4 "	31	5.5	2.0	074					5	4.0	2.8	053					1	9.3	9.3	125								
6.0 "	31	5.5	0.7	085					5	4.3	3.0	055					1	4.6	4.6	110								
7.2 "	31	5.2	0.1	019					3	4.6	2.7	068																
9.0 "	28	4.6	0.8	078																								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	MINICOY								MOHANBARI																			
	1730				2330				0530				1130				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.1	2.0	287	31	3.2	2.2	265	31	1.3	1.1	053	31	1.6	1.3	062	31	1.5	1.4	043	31	1.7	1.5	054				
0.15 a. g.	30	6.0	3.6	285	28	4.8	3.0	269	22	4.0	3.3	058	23	2.7	2.1	062	28	3.9	2.9	062	24	4.7	3.7	058				
0.3 a. m. s. l.	30	6.3	3.6	285	28	5.0	2.9	273													24	4.7	3.6	061				
0.6 "	30	6.4	3.9	280	28	5.3	3.2	264	22	4.3	3.8	058	23	2.8	2.2	062	28	4.1	3.1	069	24	4.3	3.2	071				
0.9 "	30	6.6	3.8	279	27	5.9	3.3	280	20	3.5	2.3	057	23	3.2	2.4	071	28	3.8	2.7	085	21	3.4	2.2	076				
1.5 "	29	6.5	2.2	269	27	6.6	2.0	217	18	4.2	1.3	122	16	3.6	0.9	090	27	3.3	1.4	107	16	3.9	0.9	206				
2.1 "	27	7.9	0.9	319	25	7.2	0.6	045	13	3.2	0.8	183	14	5.0	1.5	195	22	5.4	2.3	217	14	4.5	2.5	223				
3.0 "	26	8.5	1.2	103	20	6.9	2.6	075	10	3.5	1.6	230	9	5.6	4.1	232	17	7.1	5.8	233	12	4.7	3.0	241				
3.6 "	20	7.7	1.9	088	16	6.4	4.9	092	9	5.1	4.8	228	6	6.8	3.7	231	15	7.6	7.4	244	8	6.2	4.1	224				
4.5 "	15	6.6	4.3	081	11	5.7	4.8	093	6	3.6	2.9	234					7	5.6	4.8	255	4	11.1	8.9	205				
5.4 "	11	6.0	3.8	089					6	4.0	2.3	276					2	3.9	3.5	251	2	5.9	4.8	252				
6.0 "	9	5.2	4.0	095					6	5.3	2.3	278					1	8.7	8.7	250	1	7.2	7.2	275				
7.2 "	8	5.4	2.5	088					4	6.8	5.3	012					1	11.3	11.3	250								
9.0 "	6	5.4	3.9	303					2	6.4	4.8	345					1	7.7	7.7	255								
									1	12.4	12.4	265																

Station	NAGPUR								NANPARA																			
	0530*				1130				1730*				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.0	1.3	288	31	3.4	2.2	305	31	4.4	3.2	298	31	3.1	0.9	266	31	2.6	0.6	118	31	2.7	1.5	278				
0.15 a. g.	31	7.7	5.1	290	31	4.5	3.1	302	31	6.4	4.5	306	31	8.2	3.1	271	30	6.6	1.0	123	31	5.7	2.5	300				
0.3 a. m. s. l.																	30	7.3	0.9	093	31	5.9	2.6	292				
0.6 "	31	7.5	5.0	286	31	4.8	3.3	309	31	5.4	3.8	299	31	8.5	3.8	260	30	8.4	0.6	280	31	7.0	4.0	282				
0.9 "	31	7.4	5.5	289	31	4.7	3.1	311	31	4.3	2.8	290	30	7.6	4.0	288	29	8.0	2.5	285	31	6.8	4.2	276				
1.5 "	31	7.6	5.5	299	31	5.2	3.5	310	31	4.7	3.3	295	30	6.1	3.4	296	28	7.8	4.8	295	31	6.7	5.4	278				
2.1 "	31	5.8	4.0	302	29	5.1	3.6	306	31	4.8	3.6	294	30	5.3	3.2	298	23	7.1	6.2	297	31	7.7	6.9	282				
3.0 "	31	5.7	3.0	302	28	6.1	3.7	278	31	4.4	3.3	300	24	5.7	3.3	299	18	8.2	7.9	299	27	9.8	9.5	290				
3.6 "	31	5.1	3.7	300	28	7.4	4.5	273	31	5.3	3.7	289	15	6.4	3.9	313	12	9.9	9.2	300	26	10.1	9.4	295				
4.5 "	31	5.9	2.8	289	23	8.6	5.6	271	31	6.3	4.5	289	7	7.2	6.8	308	10	10.2	9.6	298	23	11.6	11.2	297				
5.4 "	30	6.4	3.8	294	18	7.5	4.3	279	31	6.9	5.0	291	3	8.1	7.9	273	6	9.0	8.4	291	17	12.4	11.9	302				
6.0 "	30	7.4	3.6	305	16	7.0	3.4	280	31	8.0	6.3	288	1	7.7	7.7	245	4	14.2	13.3	278	14	12.9	12.2	305				
7.2 "	30	9.6	5.8	280	14	10.4	7.3	290	31	10.1	7.2	278					1	24.7	24.7	300	7	14.5	13.9	296				
9.0 "	29	12.9	9.6	271	7	13.2	11.2	292	26	13.0	9.9	267									2	19.0	15.7	305				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	NEW DELHI																POONA											
	0530*				1130				1730*				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.8	0.5	040	31	4.3	1.4	272	31	2.9	1.2	302	31	2.1	0.6	330	31	1.2	1.0	263	31	2.8	2.1	277				
0.15 a. g. . .	30	7.7	1.5	301	31	5.3	1.9	288	31	6.3	3.4	295	31	7.8	2.0	356	31	4.8	3.9	269	31	6.4	4.9	282				
0.3 a. m. s. l. . .	30	3.3	0.9	110	31	5.7	1.9	296	31	3.7	1.5	295	31	6.6	1.6	351												
0.6 „ . . .	30	7.8	2.1	287	31	5.7	2.1	283	31	6.1	3.8	294	31	7.7	2.4	339	31	3.0	2.6	250	31	4.9	3.8	285				
0.9 „ . . .	30	7.8	3.0	280	31	6.0	2.8	279	31	6.2	4.4	287	31	7.1	3.3	302	31	5.9	4.3	286	31	6.8	5.3	288				
1.5 „ . . .	30	8.0	5.3	280	30	6.5	4.9	285	31	6.7	5.3	278	30	7.2	5.5	288	29	7.2	2.7	320	31	6.1	4.3	295				
2.1 „ . . .	30	8.5	7.2	283	29	8.4	6.8	289	30	7.5	6.5	281	30	8.4	7.4	279	29	6.0	0.7	332	28	5.4	2.3	324				
3.0 „ . . .	30	10.2	8.9	294	29	10.2	7.3	288	30	9.7	8.2	284	20	8.3	7.4	279	28	5.5	2.3	101	24	4.8	1.5	088				
3.6 „ . . .	30	12.0	10.1	292	28	11.4	7.8	287	30	11.4	9.3	286	5	10.0	8.1	306	24	5.5	3.0	142	22	5.7	2.1	098				
4.5 „ . . .	30	12.0	8.7	285	25	12.9	10.0	288	30	13.1	11.1	289	1	14.4	14.4	360	4	4.6	2.6	177	20	5.8	2.0	076				
5.4 „ . . .	30	12.5	10.0	290	25	13.1	11.2	287	30	13.9	12.4	290									15	7.9	2.2	346				
6.0 „ . . .	30	12.4	10.3	287	25	13.5	11.5	282	30	15.5	13.7	294									13	8.6	1.5	327				
7.2 „ . . .	30	16.1	13.5	285	14	17.6	14.2	286	30	18.3	15.5	294									7	9.5	2.7	333				
9.0 „ . . .	28	22.9	20.6	282	5	20.4	18.2	274	30	23.1	20.2	285									4	7.4	1.3	005				

Station	POONA				PORT BLAIR																RAIPUR							
	2330				0530*				1130				1730*				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.8	1.4	258	31	0.9	0.4	244	31	3.2	1.5	155	31	3.1	1.1	198	31	1.7	0.9	227	31	2.7	2.1	229				
0.15 a. g. . .	31	5.5	4.4	267	31	3.9	1.4	232	30	3.5	1.2	165	31	4.6	2.7	211	30	2.7	1.4	213	30	8.4	6.4	250				
0.3 a. m. s. l. . .					31	3.8	1.3	222	30	3.6	1.3	176	31	4.7	2.7	212	30	2.8	1.5	211								
0.6 „ . . .	31	3.5	2.9	250	31	4.3	1.7	201	30	3.8	1.5	102	31	5.4	2.6	210	31	2.8	1.3	195	30	9.5	7.3	256				
0.9 „ . . .	31	6.3	4.5	279	31	4.7	1.9	193	29	3.6	1.4	192	31	5.4	2.3	226	30	2.7	1.1	174	30	9.4	7.3	262				
1.5 „ . . .	31	7.1	4.3	310	31	4.8	2.0	167	26	4.0	1.3	155	31	5.5	1.4	210	28	3.0	1.4	137	30	7.8	6.3	290				
2.1 „ . . .	31	5.9	1.7	344	29	5.0	1.3	145	22	4.5	1.5	132	30	5.9	0.9	188	25	3.2	1.4	126	29	6.7	5.6	306				
3.0 „ . . .	31	6.1	2.2	105	29	5.8	1.4	135	19	5.3	2.0	097	30	6.6	0.6	244	20	3.3	1.2	081	24	5.6	4.6	314				
3.6 „ . . .	26	6.1	2.1	130	28	6.1	1.3	150	17	5.0	2.6	115	30	6.0	1.5	256	17	3.1	0.3	025	11	5.8	4.8	312				
4.5 „ . . .	11	5.9	1.3	080	26	6.0	2.0	215	15	4.4	0.9	117	28	6.0	2.7	281	10	2.3	1.2	069	1	6.7	6.7	290				
5.4 „ . . .	4	9.0	2.1	135	26	6.2	2.6	265	14	4.3	0.8	074	28	6.8	2.4	280	4	2.8	1.4	069								
6.0 „ . . .					26	6.7	2.4	268	12	3.6	2.3	062	27	6.4	2.3	271	1	2.1	2.1	055								
7.2 „ . . .					25	5.6	1.2	192	8	2.6	2.2	100	26	4.8	1.9	212												
9.0 „ . . .					22	4.2	0.7	068	1	3.6	3.6	115	19	5.9	1.1	176												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	RAIPUR								RAXAUL												SANTA CRUZ							
	1730				2330				0530				1130				1730				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.3	2.5	286	31	3.1	2.1	219	31	1.9	1.7	087	31	3.2	2.8	091	31	2.3	0.3	146	31	1.3	0.6	280				
0.15 a. g.	30	5.6	4.5	277	31	8.3	4.7	239	30	8.3	1.0	265	30	6.2	4.0	106	31	5.9	0.6	158	31	5.1	2.0	280				
0.3 a. m. s. l.									30	9.7	1.8	156	30	6.1	4.8	109	31	5.9	0.7	170	31	5.2	2.0	292				
0.6 "	30	6.1	5.0	276	31	8.7	5.0	247	29	9.6	6.2	108	30	7.3	5.7	110	31	6.5	1.1	228	31	5.5	1.9	289				
0.9 "	30	5.9	5.2	277	31	8.4	5.1	263	29	8.9	2.8	121	30	7.6	5.0	110	31	6.4	1.7	240	31	6.0	2.3	310				
1.5 "	30	6.1	5.6	283	31	7.1	5.8	282	27	8.1	2.2	262	22	7.5	3.8	281	31	6.5	3.9	259	31	5.7	2.2	345				
2.1 "	30	6.0	5.3	286	31	6.1	5.3	294	25	10.4	7.8	283	16	9.3	7.5	285	28	7.9	6.2	266	31	6.5	2.5	340				
3.0 "	25	6.0	5.4	296	29	6.0	4.7	307	19	12.0	11.2	289	7	12.0	10.5	288	24	11.5	11.1	279	31	6.6	0.2	113				
3.6 "	20	7.0	6.0	301	15	4.9	3.8	303	13	11.3	10.8	290					21	12.1	11.0	286	31	6.7	1.7	136				
4.5 "	12	8.3	7.0	306					6	9.9	9.7	280					20	10.5	10.3	254	31	16.5	1.8	152				
5.4 "	9	6.6	5.2	291					5	12.0	11.9	289					17	12.1	11.8	284	31	7.7	0.7	124				
6.0 "	6	4.6	4.1	300					3	9.4	9.2	312					14	12.8	11.5	282	30	8.4	1.5	248				
7.2 "	3	7.7	7.7	287					3	8.7	6.8	324					13	16.1	14.4	249	30	10.7	3.3	245				
9.0 "																	7	23.8	21.3	295	22	13.0	5.9	260				

Station	SANTA CRUZ												TEZPUR															
	1130				1730*				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.4	2.5	274	31	6.2	4.3	279	31	2.9	1.9	257	31	1.4	1.1	080	31	2.2	1.6	085	31	1.3	0.8	081				
0.15 a. g.	31	4.3	3.2	268	31	8.1	6.5	283	31	5.5	2.9	256	22	6.2	4.3	087	27	6.4	5.4	078	28	5.2	3.8	086				
0.3 a. m. s. l.	31	4.4	2.2	282	31	7.4	6.1	293	31	5.6	2.4	230	22	6.2	4.2	093	27	6.6	5.1	081	28	6.1	3.8	089				
0.6 "	31	5.0	1.7	320	31	6.1	4.5	287	30	5.6	2.3	230	22	5.8	2.1	115	27	6.0	3.5	092	28	5.8	1.5	095				
0.9 "	30	5.8	1.6	348	31	5.6	3.4	300	28	5.7	2.3	301	21	5.6	1.0	190	21	5.2	1.8	139	27	5.9	1.6	229				
1.5 "	26	6.0	2.4	337	31	5.1	2.1	297	25	4.7	1.8	345	16	7.7	3.9	245	17	6.6	2.9	215	25	7.9	6.8	248				
2.1 "	25	5.3	1.1	061	31	5.8	1.0	284	22	4.0	1.1	349	13	7.6	5.4	256	13	5.8	4.9	250	18	11.4	11.1	249				
3.0 "	24	5.8	2.0	125	30	7.0	0.2	112	18	5.8	1.6	124	8	8.0	6.9	268	10	8.2	7.6	255	14	10.4	9.9	250				
3.6 "	22	7.0	3.9	130	30	6.9	1.0	105	11	5.5	1.3	023	4	10.7	10.5	261					9	10.1	9.7	259				
4.5 "	20	6.4	3.1	150	29	7.3	1.9	143	7	5.6	2.2	119	1	12.4	12.4	225					7	9.0	7.5	268				
5.4 "	17	6.2	2.0	211	29	7.0	0.9	074	3	5.8	5.8	260									3	8.4	7.6	260				
6.0 "	16	7.6	3.1	228	29	8.4	1.1	025	2	9.3	9.3	257									2	10.0	10.0	259				
7.2 "	15	10.6	5.0	240	28	10.6	2.0	270													1	13.9	13.9	300				
9.0 "	11	15.4	11.6	253	25	10.9	4.7	251																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Station	TEZPUR				TIRUCHIRAPALLI												TRIVANDRUM							
	2330				0530				1730				2330				0530*				1130			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.5	1.1	071	31	2.3	1.4	243	31	4.0	2.4	197	31	3.6	2.0	188	31	1.7	0.7	354	31	2.2	1.1	295
0.15 a. g.	20	6.1	3.7	104	31	5.5	3.0	238	31	5.7	3.5	187	30	6.0	3.6	191	28	2.9	1.3	334	24	3.1	1.8	288
0.3 a. m. s. l.	20	6.2	3.7	108	31	5.9	3.4	238	31	5.7	3.4	186	30	6.4	3.8	191	28	4.3	1.6	328	24	3.1	1.9	282
0.6 „	20	6.3	2.4	131	31	6.5	3.8	243	31	5.6	3.2	190	30	7.6	4.7	200	28	5.0	2.4	287	24	3.4	2.3	291
0.9 „	20	5.9	2.4	207	31	5.9	3.3	240	31	5.2	2.5	192	30	6.8	3.6	209	28	5.5	3.2	280	20	4.3	2.8	293
1.5 „	16	7.5	6.0	244	31	5.0	1.3	240	31	5.1	0.7	214	30	5.3	2.0	244	28	6.2	2.1	281	11	4.1	0.6	001
2.1 „	10	10.1	9.9	262	31	6.0	1.3	053	31	5.0	0.7	353	26	5.3	1.3	347	28	7.2	0.4	262	7	6.4	5.1	071
3.0 „	6	7.1	6.5	275	28	6.4	2.6	070	29	6.4	2.3	034	21	6.8	2.0	062	27	8.0	0.7	040	4	7.5	7.3	089
3.6 „	3	4.8	4.1	251	27	7.0	2.5	074	25	7.3	4.1	055	18	7.1	3.2	066	27	8.1	0.6	072	4	8.7	8.5	090
4.5 „	2	5.4	3.3	202	21	6.9	2.3	093	21	7.2	3.8	064	8	6.7	4.3	085	26	8.5	1.6	117	2	8.2	7.7	105
5.4 „	1	3.6	3.6	225	11	7.1	2.0	153	18	6.4	3.2	070	1	4.1	4.1	160	25	7.3	1.7	143				
6.0 „	1	4.1	4.1	225	9	6.5	1.4	175	14	6.4	3.2	081	1	3.6	3.6	145	25	7.1	2.1	152				
7.2 „	1	5.7	5.7	225					8	5.5	2.5	339					23	5.5	2.0	140				
9.0 „									3	5.1	3.5	043					20	5.1	1.0	114				

Station	TRIVANDRUM								UDAIPUR												VENGURLA			
	1730*				2330				0530				1730				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.5	1.7	270	31	2.2	0.8	007	31	1.7	1.4	255	31	3.3	2.5	246	31	1.7	1.4	247	31	0.9	0.3	001
0.15 a. g.	31	3.0	2.0	273	28	4.4	1.5	302	31	5.3	4.4	261	31	6.9	5.9	253	31	5.6	4.4	262	31	3.8	0.9	330
0.3 a. m. s. l.	31	5.2	3.7	269	28	4.4	2.2	287													31	5.1	1.4	298
0.6 „	31	6.2	4.0	269	28	5.3	3.2	283													31	5.6	1.9	292
0.9 „	31	6.3	2.6	270	24	5.7	2.3	265	31	6.7	5.7	272	31	7.3	6.1	262	31	6.8	5.5	265	28	5.5	2.3	310
1.5 „	31	6.8	2.7	296	20	6.2	1.6	204	31	7.6	6.3	277	30	6.8	5.8	261	29	7.8	6.3	273	14	7.0	3.7	018
2.1 „	30	7.4	1.9	323	16	5.5	1.9	056	30	5.8	5.3	255	30	6.5	5.7	267	28	6.3	4.7	251	9	5.6	2.1	058
3.0 „	30	8.2	0.4	046	14	6.3	3.1	090	26	7.2	5.5	265	29	6.1	4.8	269	27	6.1	3.4	255	8	5.8	5.4	097
3.6 „	30	8.0	1.7	100	12	5.3	4.3	087	16	6.3	3.9	286	29	6.5	4.9	270	20	6.8	4.3	265				
4.5 „	29	7.9	0.4	122	5	5.7	4.1	130	5	8.0	3.8	342	29	7.8	5.7	270	10	6.1	2.7	306				
5.4 „	28	8.3	1.3	204	2	6.9	6.6	102					25	9.9	6.7	283	3	7.7	1.9	249				
6.0 „	28	8.3	1.7	187	1	6.7	6.7	080					25	9.8	6.8	296	1	2.6	2.6	250				
7.2 „	28	7.5	1.9	208									23	11.1	8.5	298								
9.0 „	25	5.8	2.6	104									17	14.8	14.5	278								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level
 May 1959 (VAISAKHA 11-JYAISTHA 10, 1881 SAKA)

Station	VENGURLA								VERAVAL															
	1730				2330				0530*				1130				1730*				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.1	2.4	257	31	1.3	0.3	280	31	5.1	3.6	295	31	5.3	3.6	270	31	6.7	5.6	272	31	5.4	4.4	297
0.15 a. g.	31	6.5	4.9	271	31	4.2	2.1	297	31	8.6	6.2	293	31	5.9	3.9	270	31	9.7	8.1	263	31	7.1	5.9	283
0.3 a. m. s. l.	31	6.5	4.7	276	31	5.0	2.4	304	31	8.3	6.1	293	31	6.2	3.3	293	31	9.0	7.5	265	31	8.9	7.4	286
0.6 „	31	6.9	4.3	283	31	5.6	2.4	307	31	8.4	6.2	290	31	6.8	3.9	297	31	7.8	5.9	267	31	8.6	7.0	285
0.9 „	27	6.4	3.2	291	25	5.9	2.8	318	31	7.8	5.9	284	30	6.9	4.3	300	31	6.9	5.0	274	30	7.5	6.0	286
1.5 „	18	5.3	1.3	329	21	5.2	4.2	334	31	6.8	4.7	282	29	5.2	2.6	306	31	5.4	2.9	297	24	4.9	2.5	292
2.1 „	13	4.7	2.8	022	16	4.0	1.0	027	31	6.5	3.2	275	28	4.7	1.2	273	31	5.5	2.1	280	24	5.1	1.0	267
3.0 „	12	6.9	5.0	084	13	5.9	5.1	092	31	6.9	3.3	248	28	5.3	1.8	256	31	6.2	2.2	280	23	6.5	2.4	242
3.6 „	10	6.6	4.7	098	3	7.1	6.4	065	31	7.4	3.8	240	27	6.1	2.9	245	31	6.4	2.2	261	19	6.8	4.0	247
4.5 „	8	3.1	1.5	143					31	7.8	3.5	239	26	7.2	3.1	220	31	6.7	2.6	230	10	7.2	4.6	201
5.4 „	8	3.7	0.6	348					31	8.4	1.5	277	25	8.3	1.3	155	31	7.1	0.2	235	6	7.5	2.5	217
6.0 „	8	3.4	1.5	228					31	9.2	1.3	287	24	8.9	1.8	171	31	7.7	0.5	337	3	8.2	3.3	277
7.2 „	2	5.7	4.2	298					31	9.5	2.4	265	22	9.3	2.4	237	31	9.0	3.1	267	3	10.3	4.7	307
9.0 „									31	13.5	9.9	248	21	12.5	8.3	259	30	13.5	9.4	260				

Station	VISAKHAPATNAM											
	0530				1730				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	3.0	2.9	227	30	6.1	5.6	218	31	4.0	4.0	224
0.15 a. g.	31	5.9	5.8	236	30	6.8	6.4	208	30	5.2	5.2	223
0.3 a. m. s. l.	31	7.6	7.5	225	30	7.1	6.8	212	30	6.0	5.9	228
0.6 „	31	9.0	8.8	237	30	6.5	6.0	227	30	6.4	6.2	240
0.9 „	31	8.8	8.5	241	29	5.9	5.2	244	30	5.5	5.2	246
1.5 „	31	6.1	4.7	247	29	4.9	3.9	282	30	4.1	2.6	272
2.1 „	30	4.7	2.2	273	28	4.4	2.4	313	26	3.5	1.6	342
3.0 „	26	4.7	2.6	011	26	5.4	2.5	011	24	4.9	2.9	026
3.6 „	21	5.0	4.0	036	25	6.7	3.4	152	18	5.1	3.2	027
4.5 „	14	5.2	3.9	040	24	6.5	2.9	013	11	4.4	2.6	027
5.4 „	8	4.1	1.5	003	20	4.8	2.2	332	2	5.4	4.4	298
6.0 „	5	6.4	1.8	250	13	5.2	1.6	304	1	11.8	11.8	270
7.2 „	5	4.8	4.8	268	10	6.8	2.0	298				
9.0 „	3	4.6	4.0	305	1	6.7	6.7	015				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

May 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
AGARTALA					BAMRAULI					DUM DUM					GOPALPUR					JODHPUR				
0530 hrs.					0530*					1730 hrs.*					1730 hrs.					1130 hrs.				
10.5	1	16.5	16.5	270	10.5	21	24.3	22.7	273	10.5	24	13.6	11.9	280	10.5	6	8.9	8.9	288	10.5	1	17.5	17.5	295
12.0	1	11.3	11.3	286	12.0	11	24.9	21.9	261	12.0	21	13.4	11.4	274	12.0	4	8.4	3.5	320	12.0	1	17.0	17.0	285
1730 hrs.					1730 hrs.*					1730 hrs.*					1730 hrs.*									
10.5	3	18.2	12.0	245	16.2	1	16.0	16.0	240	16.2	5	12.0	8.4	294	16.2	1	2.6	2.6	210	16.2	1	13.4	13.4	275
12.0	1	10.3	10.3	270	10.5	17	22.6	20.9	267	18.0	1	13.4	13.4	280	18.0	1	3.6	3.6	280					
14.1	1	10.3	10.3	255	12.0	9	31.0	29.4	273	21.0	1	13.9	13.9	090						10.5	14	24.9	23.8	258
AMBALA					BANGALORE					GADAG					GORAKHPUR									
0530 hrs.					1730 hrs.					1730 hrs.					0530 hrs.									
10.5	1	31.8	31.8	315	10.5	4	6.7	3.2	048	10.5	1	12.4	12.4	210	10.5	1	22.1	22.1	340	10.5	14	30.7	30.4	259
12.0	1	33.4	33.4	285	12.0	2	6.2	4.1	064	12.0	1	14.4	14.4	240	12.0	1	16.0	16.0	320	14.1	3	26.7	26.6	254
14.1	1	27.8	27.8	280	14.1	2	2.6	0.9	311	14.1	1	6.7	6.7	245	16.2	1	12.9	12.9	240					
1730 hrs.					BAREILLY					GANNAVARAM					1730 hrs.					MADRAS				
10.5	3	38.9	37.0	281	1730 hrs.					0530 hrs.					0530 hrs.*									
12.0	1	41.0	41.0	300	14.1	2	2.6	0.9	311	10.5	1	14.9	14.9	060	12.0	3	25.2	24.7	295	10.5	29	5.1	2.8	050
AMRITSAR					BEGUMPET					GAUHATI					GWALIOR									
0530 hrs.*					1730 hrs.					0530 hrs.*					1730 hrs.									
10.5	19	30.7	28.5	269	10.5	4	23.4	22.6	302	10.5	8	7.2	1.9	251	10.5	3	8.7	7.2	253	18.0	7	13.9	13.5	094
12.0	15	39.8	37.3	265	12.0	2	6.2	4.1	064	12.0	5	7.9	1.1	324	12.0	1	10.8	10.8	235	21.0	1	11.8	11.8	110
14.1	6	34.8	32.2	250	14.1	2	2.6	0.9	311	14.1	3	9.3	5.5	080	14.1	1	28.8	28.8	255	1130 hrs.				
16.2	2	24.2	21.9	226	16.2	3	7.4	7.2	072	16.2	1	14.9	14.9	060	16.2	1	52.4	52.4	260	10.5	1	4.1	4.1	100
1730 hrs.*					BHAGALPUR					1730 hrs.*					1730 hrs.					1730 hrs.*				
10.5	18	31.4	29.2	293	1730 hrs.					0530 hrs.*					1730 hrs.									
12.0	12	35.4	31.4	293	10.5	2	5.4	5.3	249	10.5	20	24.9	22.7	268	10.5	1	29.8	29.8	260	10.5	22	6.3	2.7	050
14.1	6	31.9	28.3	264	12.0	2	4.6	4.5	265	12.0	21	28.2	26.8	267	12.0	1	10.8	10.8	235	12.0	22	7.5	4.3	074
16.2	2	23.7	21.9	287	14.1	1	1.5	1.5	130	14.1	13	24.7	22.7	263	14.1	1	28.8	28.8	255	14.1	15	8.8	2.1	065
ANANTAPUR					DEHRA DUN					1730 hrs.*					1730 hrs.					1730 hrs.*				
0530 hrs.					1730 hrs.					0530 hrs.*					1730 hrs.									
10.5	1	8.7	8.7	325	10.5	8	26.5	23.3	270	10.5	18	22.7	21.8	271	10.5	1	17.5	17.5	325	10.5	1	2.6	2.6	150
12.0	1	5.7	5.7	330	12.0	1	26.2	26.2	303	12.0	16	27.9	25.9	272	12.0	1	41.5	41.5	265	16.2	6	14.9	14.0	095
14.1	1	3.6	3.6	060	14.1	9	25.2	23.6	278	14.1	4	18.5	17.7	275	16.2	1	43.6	43.6	270	1730 hrs.*				
1730 hrs.					DUM DUM					1730 hrs.*					1730 hrs.					1730 hrs.*				
10.5	1	13.9	13.9	040	0530 hrs.*					0530 hrs.					1730 hrs.									
ASANSOL					DUM DUM					0530 hrs.					1730 hrs.									
1730 hrs.					0530 hrs.*					0530 hrs.					1730 hrs.									
10.5	2	19.8	19.3	301	10.5	30	15.2	11.6	270	10.5	3	18.2	10.4	354	10.5	16	23.8	21.4	263	10.5	24	13.7	10.4	268
12.0	1	9.3	9.3	350	12.0	25	13.3	11.2	270	12.0	1	19.0	19.0	290	12.0	14	25.9	25.0	259	12.0	23	13.1	9.4	269
14.1	1	9.3	9.3	350	14.1	14	13.0	11.1	262	14.1	9	25.2	23.6	278	14.1	6	20.0	17.7	261	14.1	19	11.0	6.6	267
1730 hrs.					DEHRA DUN					1730 hrs.					1730 hrs.					1730 hrs.				
10.5	1	8.7	8.7	325	1730 hrs.					1730 hrs.					1730 hrs.									
12.0	1	5.7	5.7	330	10.5	8	26.5	23.3	270	16.2	4	20.8	19.5	279	16.2	3	15.1	12.8	261	16.2	12	10.6	0.6	324
14.1	1	3.6	3.6	060	12.0	3	30.4	29.6	303	18.0	1	32.3	32.3	260	18.0	2	10.8	10.2	359	18.0	6	11.6	4.5	048
1730 hrs.					DUM DUM					1730 hrs.					1730 hrs.									
10.5	1	13.9	13.9	040	0530 hrs.*					1730 hrs.					1730 hrs.									
ASANSOL					DEHRA DUN					1730 hrs.					1730 hrs.									
1730 hrs.					1730 hrs.					1730 hrs.					1730 hrs.									
10.5	2	19.8	19.3	301	14.1	14	13.0	11.1	262	10.5	1	19.6	19.6	215	18.0	2	10.8	10.2	359	21.0	1	4.1	4.1	360
12.0	1	9.3	9.3	350	16.2	8	9.2	4.7	303	12.0	1	23.7	23.7	315	21.0	1	13.4	13.4	070	10.5	1	9.8	9.8	360
14.1	1	9.3	9.3	350	18.0	1	4.6	4.6	020	14.1	1	21.1	21.1	310	24.0	1	9.8	9.8	110	12.0	1	7.7	7.7	090

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

May 1959 (VAISAKHAI—JYAISTHA 10, 1881 SAKA)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	NAGPUR					PORT BLAIR					VERAVAL			
	1730 hrs.*					1730 hrs.*					0530 hrs.*			
10.5	18	12.1	9.7	275	10.5	15	6.5	2.1	112	10.5	31	16.9	13.4	246
12.0	15	11.7	9.3	271	12.0	8	6.2	5.0	120	12.0	30	19.1	15.1	252
14.1	10	9.9	6.1	271	14.1	7	9.6	8.1	108	14.1	30	18.8	11.7	249
16.2	6	10.2	5.3	048	16.2	5	11.9	10.8	081	16.2	20	15.4	4.1	209
18.0	5	11.2	8.5	082	18.0	1	13.4	13.4	100	18.0	8	18.9	2.3	075
	NEW DELHI					RAXAUL					1130 hrs.			
	0530 hrs.*					1730 hrs.					1130 hrs.			
10.5	26	27.3	25.3	279	10.5	4	19.1	18.9	301	10.5	19	17.1	13.8	245
12.0	22	33.5	31.0	274	12.0	1	16.5	16.5	320	12.0	14	18.8	15.3	251
14.1	13	33.5	31.4	271		SANTA CRUZ				14.1	10	17.2	12.1	248
16.2	9	26.1	24.0	269		0530 hrs.*				16.2	9	19.6	10.2	248
18.0	5	14.7	13.5	245	10.5	17	12.3	6.1	255	18.0	7	21.5	13.4	241
21.0	1	16.0	16.0	120	12.0	10	13.9	7.4	250	21.0	2	16.5	8.8	191
24.0	1	14.4	14.4	100	14.1	7	13.4	2.1	110	24.0	2	12.9	10.2	121
	1130 h .				16.2	2	21.1	4.5	211	27.0	2	21.1	20.4	125
10.5	1	28.8	28.8	300	10.5	18	12.5	6.8	249	10.5	30	15.4	12.3	258
	1730 hrs.*				12.0	14	13.9	5.3	232	12.0	29	16.8	12.7	253
10.5	25	28.4	25.1	283	14.1	8	12.9	6.4	241	14.1	23	17.5	10.8	250
12.0	19	30.1	27.6	284	16.2	1	6.7	6.7	090	16.2	19	13.7	1.7	195
14.1	15	28.7	24.3	280	18.0	1	22.1	22.1	090	18.0	16	13.3	3.4	153
16.2	6	18.1	13.9	299		TIRUCHIRAPALLI				21.0	4	11.8	11.7	075
18.0	5	19.1	13.4	305		1730 hrs.								
	POONA				10.5	1	6.7	6.7	165					
	1730 hrs.					TRIVANDRUM								
10.5	3	11.8	3.5	348	10.5	19	5.3	3.1	110					
12.0	2	11.6	7.4	280	12.0	17	9.2	3.3	081					
14.1	2	6.7	1.4	137	14.1	11	15.2	11.6	065					
16.2	2	14.7	14.4	066	16.2	5	12.8	12.6	084					
	PORT BLAIR				18.0	1	42.5	42.5	090					
	0530 hrs.*					1730 hrs.*								
10.5	16	6.1	1.4	094	10.5	23	5.0	2.6	103					
12.0	11	6.2	2.0	045	12.0	16	5.6	3.8	100					
14.1	8	6.8	5.6	097	14.1	11	9.1	8.3	075					
16.2	2	10.6	10.6	154	16.2	5	19.5	19.4	084					
18.0	2	18.3	18.2	130		UDAIPUR								
21.0	1	22.1	22.1	160		1730 hrs.								
24.0	1	10.3	10.3	090	10.5	9	16.3	14.7	283					
27.0	1	19.6	19.6	080	12.0	6	24.2	22.1	265					
30.0	1	27.8	27.8	060	14.1	1	20.6	20.6	260					

RADIOSONDE DATA

MAY 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in GMT during the month	Remarks
1	Allahabad	Clock type	1st October 1944	00 and 12	
2	Amritsar	Clock type	21st June 1957	00 and 12	
3	Bombay	Clock type	7th September 1954	00 and 12	
4	Calcutta	Clock type	13th December 1946	00 and 12	Fan type used from 13th December, 1946 to 30th November, 1947.
5	Gauhati	Clock type	22nd July 1955	00 and 12	
6	Jodhpur	Clock type	17th April 1946	00 and 12	
7	Madras	Fan type	29th June 1946	00 and 12	
8	Nagpur	Fan type	1st October 1946	00 and 12	
9	New Delhi	Clock type	3rd December 1943	00 and 12	
10	Port Blair	Fan type	4th December 1949	00 and 12	
11	Trivandrum	Fan type	1st July 1947	00 and 12	
12	Veraval	Fan type	3rd October 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From ascents at 00 hrs. G. M. T.

May, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1006 mb)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	301.9	304	300	298.1
1000	31	039	...	...	...	...
900	31	973	298.4	302	295	289.5
850	31	1476	297.5	300	293	284.1
800	31	2004	294.2	297	290	280.4
700	31	3143	285.5	290	282	275.3
600	31	4413	275.3	282	271	268.5
500	30	5863	266.5	271	259	...
400	29	7580	257.6	263	250	...
300	26	9691	243.6	251	237	...
250	24	10969	234.4	244	227	...
200	15	12442	220.7	227	216	...
175	14	13297	215.6	222	208	...
150	12	14259	208.2	216	198	...
125	10	15330	202.6	211	194	...
100	9	16729	197.7	204	187	...
80	6	18022	195.6	197	192	...

RADIOSONDE DATA

TABLE VI.—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES
(B) From ascents at 12 hrs. G. M. T.

May, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Standard pressure surface mbs.	MADRAS (Surf. Pr. (1001 mb.))						NAGPUR (965 mb.)						NEW DELHI (974 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point
Surface	31	015	305.1	307	303	298.2	31	311	313.5	317	310	285.6	31	210	310.6	316	300	289.1
1000	31	026	...	...	...	...	31	-018	...	...	...	...	31	-017	...	...	...	...
900	31	968	300.6	304	297	300.6	31	948	308.1	311	303	280.0	31	940	306.0	311	299	284.0
850	31	1472	297.2	300	294	285.6	31	1462	302.9	307	298	277.5	31	1451	301.6	307	294	278.3
800	31	1999	293.8	299	290	281.4	31	1997	297.9	302	294	276.8	31	1984	297.9	303	290	279.6
700	31	3138	285.9	290	283	273.4	31	3146	287.1	291	283	282.8	31	3132	287.9	294	282	271.1
600	31	4417	277.6	282	274	266.9	31	4419	275.5	280	272	267.4	31	4411	277.7	283	271	261.3
500	31	5879	269.3	273	264	...	30	5866	266.4	270	262	...	31	5867	267.3	275	262	...
400	30	7611	259.6	266	256	...	31	7581	256.9	266	251	...	31	7578	255.9	265	249	...
300	27	9742	241.7	255	210	...	26	9697	243.0	255	236	...	27	9677	242.6	251	234	...
250	23	11020	235.1	240	226	...	21	10974	233.4	240	227	...	27	10952	234.7	243	227	...
200	18	12519	223.7	229	219	...	18	12469	223.1	229	218	...	25	12464	226.0	235	220	...
175	17	13379	217.5	224	212	...	15	13321	217.3	223	207	...	24	13342	221.0	229	214	...
150	16	14351	210.9	217	205	...	15	14298	210.8	216	206	...	22	14332	216.5	225	208	...
125	12	15443	204.6	212	193	...	14	15425	205.8	210	201	...	19	15504	211.1	218	201	...
100	10	16850	201.3	206	193	...	10	16779	201.3	205	195	...	16	16872	205.1	212	195	...
80	5	18188	202.4	205	199	...	8	18056	201.9	211	192	...	9	18245	205.2	210	200	...
PORT BLAIR (997 mb.)						TRIVANDRUM (998 mb.)						VERAVAL (1003 mb.)						
Surface	31	079	301.3	304	297	297.5	31	064	301.8	305	298	297.7	31	008	303.9	306	302	299.7
1000	31	051	...	...	...	...	31	048	...	...	...	...	31	039	...	...	...	...
900	31	979	295.0	301	291	293.1	31	981	296.1	299	293	290.5	31	979	301.1	303	296	282.7
850	31	1474	292.5	301	285	290.1	31	1478	293.5	295	291	287.7	31	1484	298.2	301	295	277.7
800	31	1994	289.5	295	283	286.8	31	2007	290.7	294	287	283.6	31	2013	294.8	298	292	274.8
700	31	3126	283.3	288	276	279.8	31	3131	284.7	288	281	276.2	31	3152	286.5	290	281	270.3
600	31	4389	276.1	283	267	273.3	31	4406	277.7	283	272	270.0	31	4428	277.2	283	272	264.1
500	31	5842	267.6	275	261	...	31	5871	269.6	273	265	...	31	5886	268.3	273	257	...
400	31	7561	257.7	264	249	...	31	7600	259.4	262	253	...	31	7608	257.8	265	248	...
300	24	9683	243.3	247	236	...	30	9734	244.7	253	237	...	31	9728	244.8	253	234	...
250	19	10937	232.2	237	226	...	28	11061	235.3	243	225	...	31	11014	236.2	243	226	...
200	14	12401	220.7	229	213	...	26	12517	224.2	231	212	...	31	12526	225.9	234	215	...
175	12	13243	214.1	221	206	...	24	13373	217.4	224	209	...	29	13387	218.5	225	205	...
150	12	14209	207.7	215	199	...	21	14331	209.4	218	199	...	26	14358	212.9	220	204	...
125	8	15378	200.0	206	191	...	16	15454	206.0	213	200	...	26	15490	206.0	215	194	...
100	6	16558	196.2	202	188	...	11	16826	201.7	208	196	...	25	16821	201.6	209	188	...
80							9	18127	200.9	207	193	...	20	18151	202.2	215	194	...

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From ascents at 12 hrs. G. M. T.

May, 1959 (VAISAKHA 11—JYAISTHA 10, 1881 SAKA)

Standard pressure surface mbs.	VISAKHAPATNAM Surf. Pr. (997 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point
Surface	31	048	304·0	305	303	298·6
1000	31	022	...	...	...	...
900	31	962	300·3	303	297	289·3
850	31	1467	298·3	302	295	284·6
800	31	1998	294·9	299	291	281·6
700	31	3140	286·0	298	281	274·0
600	31	4414	276·1	289	270	269·1
500	31	5869	268·0	271	263	...
400	31	7589	257·7	262	251	...
300	29	9714	244·4	250	236	...
250	28	10995	234·5	241	229	...
200	24	12498	223·5	229	217	...
175	20	13342	216·3	223	211	...
150	18	14370	209·9	216	204	...
125	14	15440	204·3	208	198	...
100	6	16869	202·0	203	196	...
80						

Note : Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273° A.

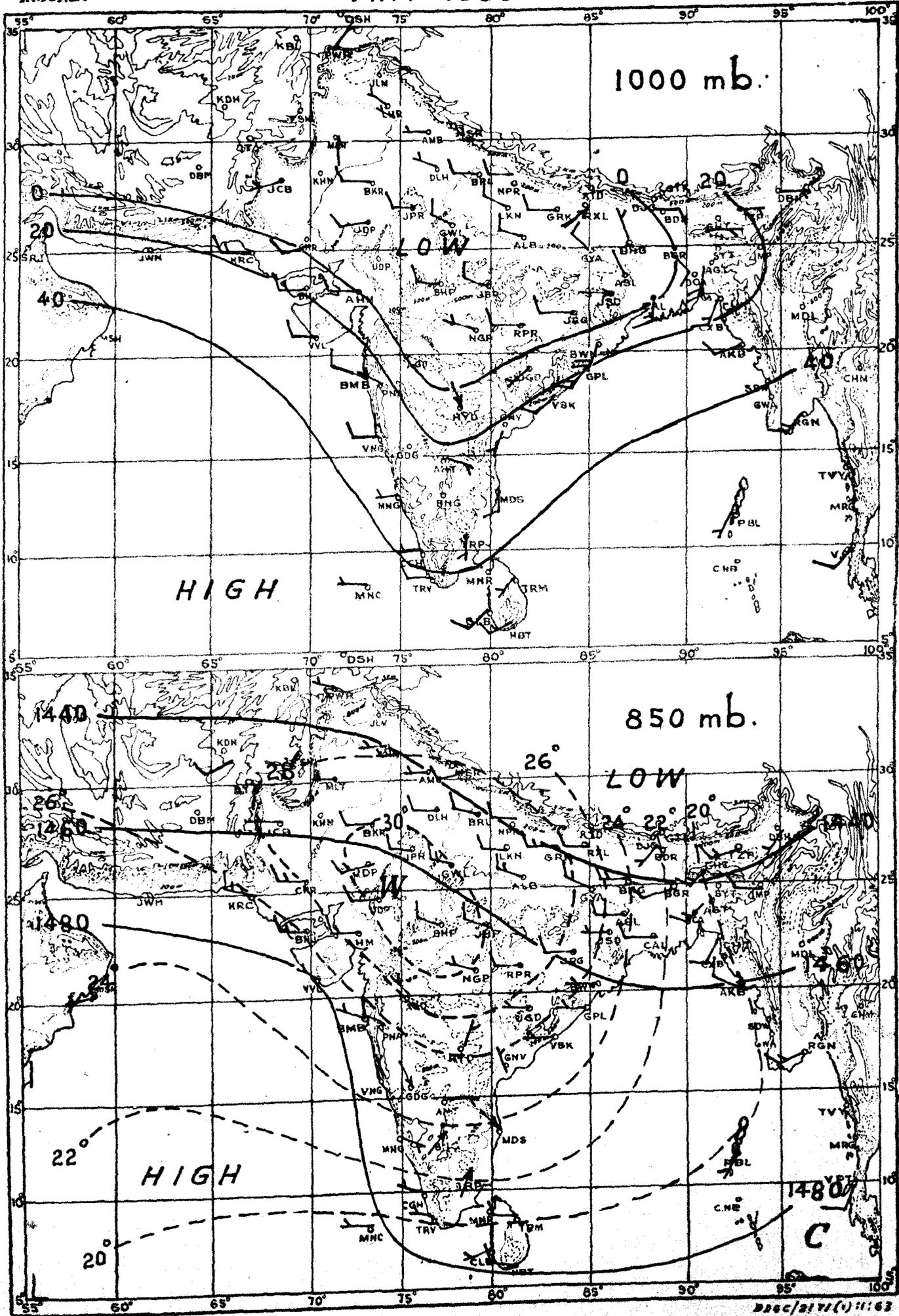
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I. Met. D.

MAY 1959

Plate I

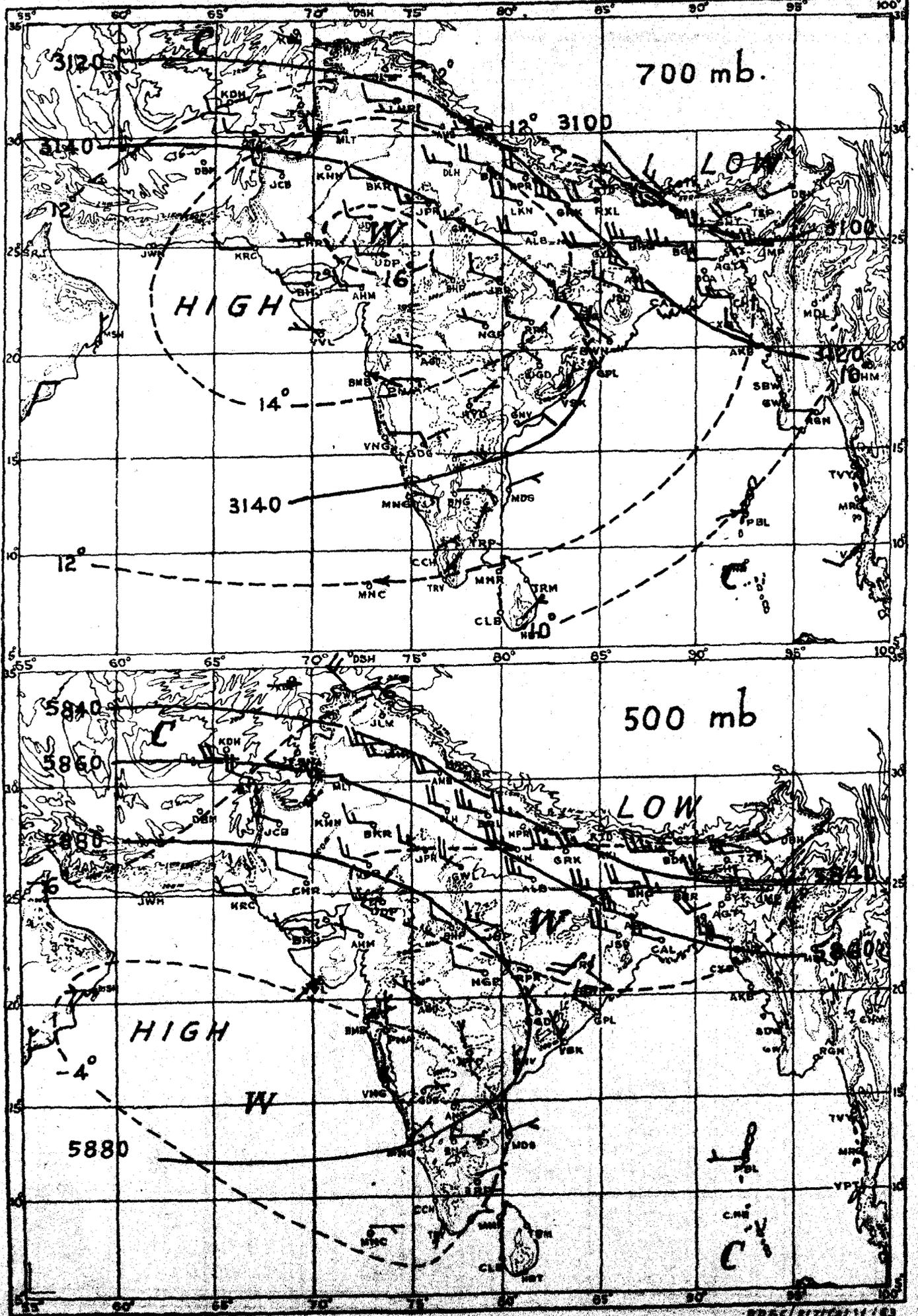


MONTHLY MEAN CONSTANT PRESSURE CHARTS

MAY 1959

Plate II

I.Met.D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade

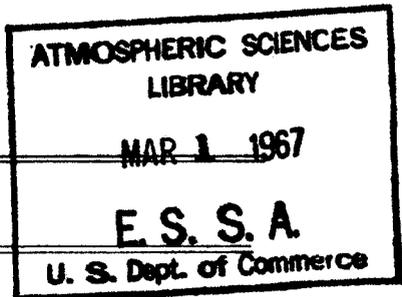
————— Contours in geopotential metres.

NO. 11 (1959)

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

JUNE

Published by authority of the Government of India*Chief features :—*

- (1) A delay of nearly two weeks in the establishment of the monsoon along most of the west coast and in the Peninsula,
- (2) Persistent heavy rains in Assam during the third week of the month causing devastating floods there,
- (3) Development of a severe cyclonic storm in the Arabian Sea, and
- (4) Development of a cyclonic storm in the north Bay of Bengal and its movement across the interior of the country as a depression.

A shallow trough of low pressure appeared in the east central Arabian Sea off the south Konkan coast on 4th and became unimportant on 6th. Under its influence the Arabian Sea branch of the southwest monsoon which had advanced into south Kerala on 31st May extended further northwards into north Kerala on 4th June, coastal Mysore on 5th and the south Konkan on 6th. It weakened gradually thereafter and did not progress further during the next two weeks. Later, in association with a shallow depression from the west central Bay of Bengal and a well marked trough of low pressure off the Malabar, Kanara and the south Konkan coasts, the monsoon strengthened progressively along the west coast upto Lat. 16°N by 24th. Some of the noteworthy amounts of rainfall recorded in association with the strengthening of the monsoon were: Alleppey 17 cm and Punalur 14 cm on 22nd, Ratnagiri 11 cm on 23rd and Mangalore 21 cm on 24th.

In association with unsettled conditions which developed in the east central Bay of Bengal off the Arakan coast the Bay branch of the monsoon which had advanced into the Andaman Sea and the southeast Bay of Bengal towards the end of May extended into the east central Bay by 3rd and into the northeast Bay of Bengal by 6th. It advanced into Assam on 14th and under the influence of an upper air trough which persisted over northeast India during the third week of the month it remained active over Assam and the neighbourhood causing persistent rain with some heavy to very heavy falls. Cherrapunji recorded 44 cm of rain on 14th, 50 cm on 16th and 47 cm on 21st. Due to these continuous heavy rains rivers in Assam and Manipur State rose in spate flooding low lying areas and caused considerable damage to standing crops particularly in the districts of Kamrup, Cachar, Lakhimpur and Sibsagar. There was also loss of a few human lives.

A depression formed in the east central Arabian Sea on the morning of 25th with its centre about 220 kms. to the west of Bombay. Moving northwestwards it intensified into a deep depression centred about 100 km to west of Veraval on 26th morning and about 170 km to the west of Dwarka on 27th morning. Thereafter, it moved westwards and concentrated rapidly into a severe cyclonic storm by 28th morning when it was centred near Lat. 22.5°N and Long. 64.5°E. Under the influence of this storm, the Arabian Sea branch of the monsoon current strengthened rapidly and extended northwards, establishing itself over the Konkan, west Maharashtra, south Gujarat and south Saurashtra by 26th morning.

Another depression formed in the north Bay of Bengal and the neighbourhood on 27th evening with its centre near Lat. 18.5°N and Long. 89.5°E and rapidly concentrated into a cyclonic storm by 28th morning centred about 300 kms to the southeast of Puri. Taking a northwesterly course, it crossed the north Orissa coast between Puri and Chandbali on 29th evening. Moving westnorthwestwards and weakening, it lay as a deep depression with its centre about 60 kms to the

east of Raipur on the last day of the month. In association with it, both the branches of the monsoon advanced rapidly over the country and by the end of the month established themselves over the entire Union territory except Jammu and Kashmir, Himachal Pradesh, the Punjab(I) and west Rajasthan.

The rainfall for the month was in large excess in coastal Andhra Pradesh, Rayalaseema, Madras State and Interior Mysore, in moderate excess in the Konkan, Telangana and Kerala, and in slight excess in the Bay Islands, Bihar Plateau and coastal Mysore. It was in slight defect in Assam, Gangetic West Bengal, east Madhya Pradesh, Gujarat, Saurashtra and Kutch and Maharashtra (including Marathwada), in moderate defect in Orissa, Bihar Plains, the Punjab(I), west Rajasthan and west Madhya Pradesh and in large defect in Uttar Pradesh and Jammu and Kashmir. The rainfall was normal in Sub-Himalayan West Bengal, east Rajasthan, Vidarbha and the Arabian Sea Islands.

The mean maximum temperature was above normal in west Uttar Pradesh, the Punjab(I), west Rajasthan and east Madhya Pradesh, below normal in Sub-Himalayan West Bengal, coastal Andhra Pradesh, Rayalaseema and the Madras State and normal over the rest of the country outside Himachal Pradesh.

The mean minimum temperature was above normal in west Rajasthan, below normal in coastal Mysore and normal over the rest of the country outside Himachal Pradesh.

The mean relative humidity in the morning was in excess in Bihar Plateau, Rayalaseema, the Madras State and Interior Mysore and in defect in Jammu and Kashmir. It was normal elsewhere over the country outside Himachal Pradesh.

The mean cloud amount in the morning was in excess in Sub-Himalayan West Bengal, the Madras State and north Interior Mysore and in defect in west Uttar Pradesh, Jammu and Kashmir and west Rajasthan. It was normal elsewhere over the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column; similarly the heaviest fall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs, IST of the date given in the succeeding column.

POONA 5,

Dated the 12th December, 1959.

C. RAMASWAMY,

for Director General of Observatories.

Page No.	Station	Hour	Column	For	Read
Table I Sub-Division					
291	1. Bay Islands		5	-0.7	+0.7
Table II					
292	Heading		14	Date	Date
292	Heading		20(a)	Precipitation (0.1 or 2.0mm)	Precipitation (0.1 or 0.2 mm)
292	Maya Bandar		10	98.2	198.2
292	Maye Bandar		29	Blank	0
292	Port Blair		10	99.1	399.1
292	Pasighat		10	69.8	269.8
292	North Lakhimpur		10	43.7	143.7
292	Tezpur		7	+0.2	-0.2
292	Majbat		10	06.2	206.2
292	Tangle		10	42.2	242.2
292	Gaugati (Bhorjor Aerodrome)		10	49.1	149.1
292	Rangiya		10	26.2	126.2
292	Rangiya		11	60.3	660.3
292	Goalpara		10	23.9	123.9
292	Dhubri		12	117.1	-117.1
292	Dhubri (Rupsi Aerodrome)		10	32.0	132.0
292	Tura		10	18.5	218.5
292	Kailashar		10	48.2	348.2
292	Silchar		10	90.8	390.8
292	Silchar (Kumbhigram Aerodrome)		10	15.9	315.9
292	Haflong		10	47.7	247.7
292	Contai		1	Conta	Contai
292	Burdwan		8	33.3	23.3
293	Heading		20(a)	Precipitation (0.1 or 2.0mm)	Precipitation (0.1 or 0.2 mm)
293	Chandbali		19	-0.2	+0.2
293	Cuttack		12	157.5	-157.5
293	Titilagarh		20(b)	15	15
293	Hazaribagh		11	Not clear	266.3
293	Dumka		12	101.1	-101.1
293	Purnea		18	Not clear	6.6
293	Forbesganj		11	Not clear	294.6
293	Darbhanga		12	Not clear	-20.9
293	Motihari		12	Not clear	115.4
293	Motihari		28	---	0
293	Patna		3	-1.8	+1.8
293	Patna		18	Not clear	9.2
293	Patna (Aerodrome)		18	Not clear	7.8
293	Gonda		12	-25.4	-125.4
293	Foot note		-	(Y) mean of 21 days.	(j) Mean of 21 days.
294	Bareilly		14	14	1
294	Bareilly		16	-1.3	-1.4
294	Najibabad		14	1	12

Contd: 2

Page No.	Station	Hour	Column	For	Read
Table II (Contd.):					
294	Hissar		3	+0.2	+2.0
292	Sri Ganganagar		6	30.8	30.0
294	Barmer		7	+0.1	+1.0
294	Ajmer		12	-5.21	-52.1
295	Erinpura (Jawai Dam)		1	Erinpura (Jawai Dam)	Erinpura (Jawai Dam)
295	Jagdalspur (P. B. O.)		3	+0.1	-0.1
295	Ahmedabad		19	+0.7	-0.7
296	Heading		20	20	20(a)
296	Heading		20	20	20(b)
296	Heading		20(b)	0.2mm or more	0.3mm or more
296	Veraval		4	34.9	33.9
296	Parbhani		17	16.2	16.2(b)
296	Foot note		-	(h) Mean of 29 days.	(b) Mean of 29 days.
296	Poona		17	8.7(b)	8.7
296	Brahmapuri		13	46.3	26.3
297	Cuddepah		6	5.9	25.9
297	Coimbatore		10	61.3	61.2
297	Tambaram (Aerodrome)		1	Tambaram (Aerodrome) Interior	Tambaram (Aerodrome)
297	Honaver		16	-8.4	-4.8
297	Interior Mysore (North)		1	Mysore (North) Interior	Interior Mysore (North)
297	Gulberga		9	Blank	7
297	Interior Mysore (South)		1	Mysore (South) Interior	Interior Mysore (South)
297	Fort Cochin		3	-0.1	-0.1
298	Kodaikanal		10	154.7	104.7
298	Trincomalee		4	36	36.0
298	Khijarawan		1	Khijarawan	Khijarawan
298	Bhimkund		21	Blank	0
298	Tehri		24	Blank	0
299	Hydrometeorological Observatories (Contd.)		1	Hydrometeorological Observation (Contd.)	Hydrometeorological Observatories (Contd.)
299	Dandeldhura		10	29.7	27.9
299	Ekhaldunga		5	7	17
299	Bhojpur		6	17.8(d)	17.8

Table III

300	Sibsagar	0830	6	+1.9	+1.1
300	Jorhat	0530	5	991.1	991.9
300	Tangla	1730	3	Blank	"
301	Silchar	0830	14	+0.1	-0.1
301	Haflong	0830	10	25.8	25.7
301	Jalpaiguri	1730	9	24.8	24.6
302	Dum Dum	0530	5	998.8	999.8
302	Dum Dum	0830	7	26.9	29.6
302	Dum Dum	1730	17	8	2
302	Puri	1730	18	18	8

Page No.	Station	Hour	Column	For	Read
<u>Table III (Contd.)</u>					
303	Motihari	0830	14	0.5	-0.5
304	Gonda	1730	9	23.7	22.7
304	Azamgarh	1730	4	955.7	995.7
304	Varanasi (Benaras)	1730	5	988.7	987.7
305	Kampur	1730	2	3730	1730
305	Orai	0830	5	94.5	984.5
305	Orai	0830	17	Blank	0
305	Orai	0830	27	6	0
305	Najibabad	1730	15	3.4	3.3
305	Roorkee	1730	26	19	9
305	New Delhi (Palam Aerodrome)	0530	27	5	4
305	New Delhi (Palam Aerodrome)	0530	28	Blank	0
306	New Delhi (Palam Aerodrome)	0830	3	223	233
306	New Delhi (Palam Aerodrome)	1430	13	2.8(b)	2.8
306	New Delhi (Palam Aerodrome)	1730	9	10.1	13.1
306	New Delhi (Palam Aerodrome)	1730	13	2.6(h)	2.6(b)
306	New Delhi (Palam Aerodrome)	2030	13	2.2(6)	2.2
306	Ambala (PBO)	0230	5	995.9	965.9
306	Ludhiana	0830	12	1	-1
306	Ludhiana	1730	10	19.8	18.9
306	Adampur(Aerodrome)	1130	24	41	4
307	Srinagar	1730	19	6	2
307	Gulmarg	0830	12	-2.1	-21
307	Skardu	0830	28	0	---
307	Skardu	1730	28	0	---
307	Gilgit	0830	28	0	---
307	Gilgit	1730	28	0	---
307	Misger	0830	28	0	---
307	Misger	1730	28	0	---
307	Jammu	0830	28	0	---
307	Foot note	-	-	R=Register and received	R= Register not received.
307	Jammu (Aerodrome)	0530	13	2.2	2.1
307	Sri Ganganagar	2330	16	1	0
307	Sri Ganganagar	2330	17	0	1
307	Jodhpur	2330	2	2830	2330
307	Division and Station	-	1	Blank (Before Pilani)	RAJASTHAN (EAST)
307	Alwar	0830	1	Alwar	Alwar
308	Gwalior	2330	9	240	24.0
309	Hoshangabad	0830	24	5	15
309	Seoni	1730	22	Blank	3
310	Ahmedabad	2330	10	28.1	28.5
310	Surat	0830	14	-1	-0.1

Page No.	Station	Hour	Column	For	Read
<u>Table III (Contd.):</u>					
310	Naliya	0830	3	Blank	21
311	Mahuva	0830	6	+0.9	---
311	Mahuva	1730	13	2.6	2.6(e)
311	Keshod	1730	22	Blank	0
311	Ratnagiri	0830	10	0.5	30.5
312	Poona	1130	25	15	13
312	Poona	1730	25	16	15
312	Poona	2330	25	25	16
312	Poona (Lohagan Aerodrome)	0230	25	22	25
312	Poona (Lohagan Aerodrome)	0530	25	21	22
312	Poona (Lohagan Aerodrome)	1130	25	20	21
312	Poona (Lohagan Aerodrome)	1730	25	22	20
312	Poona (Lohagan Aerodrome)	2330	25	Blank	22
313	Mesulipatam	0530	28	2	0
313	Visekhapatnam	1130	28	0	1
313	Kakinada	0830	10	30.	30.5
314	Foot Note			Observations started on 15.6.59	Observatory started on 15.6.59
314	Tirupattur	1730	22	1	8
314	Madras	0830	6	3	+0.3
315	Gadag (PBO)	2330	9	21.6	21.0
315	Shimoga	1730	22.7	23.7	25.7
315	Bangalore (Aerodrome)	1730	21	0	1
315	Bangalore (Aerodrome)	1730	22	1	0
315	Kozhikode	0830	1	Kozhide	Kozhikode
316	Moinital	1730	7	23.4	22.4
317	Simla	0830	8	15.6	14.0
317	Simla	0830	14	-	-1.0
317	Dheramshala	1730	14	-1.0	---
317	Abu	0830	14	---	-1.0
317	Nandi Hills	0830	15	22.6(d)	22.6
318	Ginabhar	0830	27	7	---
318	Bhimkund	0830	27	9	7
318	Bhimkund	1730	27	---	9
318	Dailekh	1730	1	Blank	*
318	Chautara	-	1	Chautara	Chautara
318	Foot Note			4.	*
318	Foot Note			(c) Mean of 21 days	(d) Mean of 28 days.
319	Wallungchung Gola		1	Dallungchung Gola	Wallungchung Gola
319	Geyzing		1	Gyizing	Geyzing

TABLE I—DIVISIONAL AND SUB-DIVISIONAL MEANS—JUNE, 1959 (JYAISTHA 11—ASADHA 9, 1881 SAKA)

	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C.	Mean minimum temperature °C	Relative humidity %.		Cloud			Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %.		Cloud	
					0830 hrs. IST.	1730 hrs. IST.	0830 hrs. IST.	1730 hrs. IST.						0830 hrs. IST.	1730 hrs. IST.		
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Division—contd.																	
1. Assam (Including Manipur, Tripura).	361.1	86	30.8	24.4	86	81	6.5	5.9	9. Madhya Pradesh	125.6	74	37.5	26.2	60	46	4.3	5.5
	-60.4		-0.4	+0.2	+2		+0.2			-44.6		+0.9	+0.3	0		+0.2	
2. West Bengal	297.2	83	33.1	26.1	82	76	5.2	5.0	10. Bombay	281.9	116	34.9	25.5	76	60	4.8	4.9
	-57.5		-0.5	+0.2	+2		-0.4			+38.0		+0.5	+0.1	+2		-0.3	
3. Orissa	136.5	63	34.2	26.3	77	71	5.5	5.8	11. Andhra Pradesh	162.4	164	35.2	25.8	71	60	5.6	6.1
	-79.0		0	-0.3	+1		+0.2			+63.2		-1.3	-0.7	+5		+0.2	
4. Bihar	157.3	83	35.4	25.9	74	68	5.4	5.8	12. Madras State	60.7	153	33.8	25.6	72	63	6.2	6.6
	-32.7		+0.2	-0.1	+5		+0.5			+21.0		-1.7	-0.1	+6		+1.9	
5. Uttar Pradesh	42.5	34	39.4	28.3	57	41	2.5	2.5	13. Mysore	387.2	132	30.3	21.8	84	68	6.6	6.9
	-80.9		+1.2	+0.9	-2		-0.7			+94.5		-0.5	0	+6		+0.9	
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	38.7	71	41.7	28.4	53	33	2.2	1.9	14. Kerala	794.5	126	29.2	24.0	89	86	7.1	7.3
	-16.1		+1.4	+0.7	+5		+0.1			+161.7		-0.1	+0.1	+2		+0.5	
7. Jammu and Kashmir.	13.5	31	24.2	9.7	46	35	1.5	3.1									
	-29.9		+0.4	+0.3	-16		-1.1										
8. Rajasthan	44.8	79	40.4	28.5	58	31	2.0	2.3									
	-12.2		+0.9	+0.8	+1		-0.3										
Sub-Division—contd.																	
1. Bay Islands	636.8	115	30.0	24.6	82	88	6.8	6.6	16. Madhya Pradesh (East).	181.1	88	37.0	26.0	61	51	4.8	6.3
	+84.3		+0.9	-0.7	0		+0.1			-24.8		+1.2	+0.3	+1		+0.1	
2. Assam (Including Manipur, Tripura).	361.1	86	30.8	24.4	86	81	6.5	5.9	17. Gujarat	125.9	89	36.8	26.6	72	49	4.3	3.1
	-60.4		-0.4	+0.2	+2		+0.2			-15.2		+0.5	+0.1	-4		-0.9	
3. Sub-Himalayan West Bengal.	535.3	91	31.2	24.9	85	77	6.6	5.6	18. Saurashtra and Kutch.	75.8	87	36.1	27.1	78	67	4.1	4.2
	-53.6		-1.1	-0.1	+2		+1.7			-11.8		+0.4	+0.3	+4		-0.5	
4. Gangetic West Bengal.	208.0	78	33.7	26.4	81	75	4.8	4.8	19. Konkan	718.2	142	31.3	25.9	83	79	6.1	5.7
	-59.0		-0.4	+0.2	+3		-1.0			+211.3		+0.3	0	+2		+0.1	
5. Orissa	136.5	63	34.2	26.3	77	71	5.5	5.8	20. Maharashtra (Including Marathwada)	168.2	85	34.5	23.1	76	56	4.7	5.5
	-79.0		0	-0.3	+1		+0.2			-30.5		+0.8	+0.2	+4		-0.5	
6. Bihar Plateau	229.1	118	35.4	25.2	72	68	5.1	6.4	21. Vidarbha	188.2	102	37.8	26.1	66	43	4.9	5.7
	+34.8		-0.1	-0.5	+6		+0.2			+4.3		+0.3	0	+5		+0.2	
7. Bihar Plains	112.5	60	35.5	26.5	76	68	5.6	5.2	22. Coastal Andhra Pradesh.	155.0	162	35.5	26.8	70	65	5.7	6.1
	-74.9		+0.5	+0.3	+4		+0.8			+59.2		-1.4	-0.6	+1		+0.1	
8. Uttar Pradesh (East).	38.4	29	39.0	28.3	60	43	2.9	2.4	23. Telangana	193.9	141	34.8	24.5	71	54	5.1	5.8
	-92.0		+1.0	+0.7	-2		-0.6			+56.5		-0.7	-0.6	+5		+0.1	
9. Uttar Pradesh (West).	47.1	41	39.9	28.2	53	38	2.1	2.5	24. Rayalaseema	145.6	215	35.1	25.3	73	57	6.0	6.3
	-68.3		+1.4	+1.0	-2		-0.8			+77.8		-1.8	-0.9	+11		+0.8	
10. Punjab (India) (Including Delhi)	38.7	71	41.7	28.4	53	33	2.2	1.9	25. Madras State	60.7	153	33.8	25.6	72	63	6.2	6.6
	-16.1		+1.4	+0.7	+5		+0.1			+21.0		-1.7	-0.1	+6		+1.9	
11. Himachal Pradesh.	33.8	..	38.0	23.1	56	38	2.1	2.1	26. Coastal Mysore	1099.0	111	29.7	22.8	89	83	7.4	7.3
	..		..	..	..		..			+114.8		+0.3	-1.1	+1		+0.6	
12. Jammu and Kashmir.	13.5	31	24.2	9.7	46	35	1.5	3.1	27. Interior Mysore (North)	186.4	167	32.2	22.5	82	63	6.4	6.8
	-29.9		+0.4	+0.3	-16		-1.1			+74.9		-0.5	+0.2	+7		+1.3	
13. Rajasthan (West)	19.6	51	42.0	29.1	57	27	1.5	1.5	28. Interior Mysore (South)	232.1	181	28.5	20.7	85	68	6.5	7.0
	-19.2		+1.4	+1.3	0		-0.5			+104.0		-0.8	+0.2	+6		+0.5	
14. Rajasthan (East)	76.3	96	38.8	27.9	59	36	2.4	3.1	29. Kerala	794.5	126	29.2	24.0	89	86	7.1	7.3
	-3.5		+0.3	+0.3	+2		-0.1			+161.7		-0.1	+0.1	+2		+0.5	
15. Madhya Pradesh (West).	82.5	58	38.0	26.4	60	41	4.0	4.8	30. Arabian Sea Islands.	334.3	101	30.7	25.8	85	81	6.8	7.7
	-60.0		+0.6	+0.4	0		+0.2			+2.7		+0.4	+0.4	+3		+0.9	

NOTE.— The entries in the second line for each division and sub-division indicate departures from normal.
 *Data of Himachal Pradesh not included.

TABLE II.—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—JUNE, 1959. (JYAISTHA 11, —ASADHA 9, 1881 SAKA) 299

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days. (2.5 mm. or more)		Wind speed, km. per hour.			Weather phenomena—No. of days with													
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours.	Departure from normal.	Heaviest fall in 24 hours.	Date	Total in the month.	Departure from normal.	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal.	Precipitation 0.1 or 0.2mm.	Precipitation 0.3mm or more	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29			
Hydrometeorological Observation (Contd.)																																
Gandak Catchment																																
Gorkha . . . . .	..	..	..	..	..	..	..	..	53.3	400.5	..	139.7	14	17	..	..	..	..	0	20	..	..	..	..	..	..	..	..	..	..	..
Pokhara	29.4	..	31.6	18	20.7	..	16.6	6	194.5	744.5	..	137.7	13	25	..	..	..	..	0	27	..	..	..	..	..	..	..	..	..	..	..
Nawakot	29.8	..	33.2	17	21.3	..	19.3	5	66.8	266.9	..	45.7	11	13	..	..	..	..	0	17	..	..	..	..	..	..	..	..	..	..	..	..
Jomosou	23.5	..	25.5	5	..	..	..	..	0	12.8	..	9.7	11	1	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..	..	..
Timure	26.1	..	28.2	10	17.3	..	13.9	1	12.5	117.8	..	20.8	28	12	..	..	..	..	0	17	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																																
Dallekh	27.2	..	30.5	22	19.0	..	16.3	26	22.3	251.3	..	43.2	30	18	..	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																																
Dandeldhura	25.7	..	28.9	19	17.1	..	12.8	19	29.7	136.2	..	25.6	27	12	..	..	..	..	0	14	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	33.7	..	36.9	17.18	24.6	..	20.9	1	157.8	322.5	..	83.8	28	13	..	..	..	..	0	13	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment (Katmandu*)																																
Kosi Catchment																																
Chautara	26.9	..	30.0	21	18.7	..	16.1	9	34.5	212.9	..	44.3	28	15	..	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga	23.5	..	26.2	7	16.7	..	14.7	1	42.3	207.4	..	49.2	5	18	..	4.0	3.9	..	0	23	0	0	7	5	0	0	0	0	0	0	0	
Barakhshetra	31.2	..	34.2	1	24.6	..	22.7	24	105.1	385.5	..	155.2	27	15	..	8.0	4.9	..	4	19	0	6	11	0	0	0	0	0	0	0	0	
Angbung	27.8	..	30.6	4.21	19.0	..	17.2	1	38.0	208.0	..	45.0	18	14	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	23.8	..	25.7	29	16.9	..	14.9	1	25.1	333.1	..	47.0	4	20	..	..	..	..	2	24	0	0	4	11	0	0	0	0	0	0	0	
Taplethok	27.3	..	29.6	30	18.1	..	16.2	2,3	103.9	401.7	..	82.0	21	20	..	..	..	..	0	27	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	15.3	..	18.2	5	3.8	..	5.0	1	74.4	211.0	..	28.8	11	20	..	..	..	..	0	27	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur	23.7	..	25.7	16	17.8	..	16.2	1	70.7	202.8	..	56.0	5	13	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	27.2	..	29.2	5	19.6	..	17.2	1	3.2	85.8	..	28.4	5	5	..	..	..	..	0	13	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																																
Gangtok	21.5	..	25.4	5	16.0	..	13.2	1	112.0	636.4	..	64.4	18	23	..	4.3	3.4	..	0	27	0	0	1	23	0	0	0	0	0	0	0	
Geyzing	24.5	..	28.0	29	17.7	..	15.5	1	35.7	283.9	..	89.0	5	16	..	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..	..	..

(d) Mean of 27 days.

(c) Mean of 28 days.

(b) Mean of 29 days.

*Data included under Hill stations.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JUNE, 1959 (JYAISTHA 11—ASADHA 9, 1881 SAKA)

Table with columns for Division and station, Hour of observation I.S.T., Height of barometer, Mean pressure in millibars, Mean temperature in °C, Cloud amount (Oktas), Wind speed (Km. p.h.), and No. of observations. Rows include stations like Bay Islands, Assam, and Gauhati with multiple hourly observations.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JUNE, 1959 (JYAISTHA II—ASADHA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Coastal Mysore Karwar	0830	4	1006.9	1006.4	-0.3	26.7	25.3	24.7	31.1	89	..	7.5	..	10.5	0	6	16	0	1	3	1	1	0	6	6	8	4
	1730	..	1005.1	1004.6	..	28.2	25.7	24.5	30.7	81	..	7.3	..	15.8	0	11	15	0	0	0	0	1	2	9	7	4	7
Honavar	0830	26	1007.3	1004.4	-0.6	25.8	24.4	23.8	29.5	89	0	7.6	+0.8	6.0	0	0	28	1	4	8	3	2	4	6	0	2	0
	1730	..	1005.4	1002.5	..	29.3	25.2	24.3	30.4	84	..	7.2	..	8.3	0	0	28	1	0	1	0	3	9	10	4	2	0
Mangalore	0830	22	1007.8	1005.3	-0.5	25.7	24.4	23.9	29.7	90	+3	7.2	+0.4	8.5	0	1	29	0	6	12	3	0	7	1	1	0	0
	1730	..	1005.9	1003.4	..	27.3	25.1	24.1	30.0	83	..	7.3	..	10.1	0	2	28	4	3	2	1	0	5	8	6	0	1
Mangalore (Bajpe Aerodrome)	0230	102	1006.9	995.1	..	24.1	23.6	23.3	28.6	95	..	6.6	..	7.6	0	2	21	0	1	8	3	2	0	8	1	7	0
	0530	..	1006.6	994.9	..	23.9	23.3	23.0	28.1	95	..	7.1	..	8.0	0	2	26	1	1	13	6	0	1	5	1	2	0
	0830	..	1008.0	996.3	..	24.9	23.9	23.4	28.8	92	..	7.3	..	7.3	0	2	24	1	3	14	3	0	1	4	0	4	0
	1130	..	1008.1	996.5	..	27.3	24.9	23.7	29.3	81	..	7.5	..	9.3	0	2	25	2	0	1	4	1	1	12	6	3	0
	1730	..	1006.1	994.4	..	26.5	24.6	23.7	29.3	85	..	7.8	..	10.6	0	3	25	2	0	2	0	0	4	15	5	2	0
2330	..	1008.4	996.7	..	24.7	23.9	23.5	28.9	93	..	6.9	..	8.2	0	2	23	0	2	7	5	0	2	5	4	5	0	
Interior Mysore (North) Bidar	0830	664	1004.3	931.8	..	24.7	22.3	21.1	25.0	81	+10	5.9	+1.3	18.9	0	11	19	1	1	1	0	1	14	7	5	0	0
	1730	..	999.5	928.5	..	29.8	23.1	19.9	23.2	57	..	6.5	..	15.0	0	6	24	1	3	1	3	1	11	3	7	0	0
Gulbarga	0830	458	1005.1	954.6	+0.3	26.0	22.8	21.3	25.3	75	+4	7.2	+2.4	17.1	0	7	23	1	0	2	1	2	10	11	3	0	0
	1730	..	1000.0	950.5	..	31.2	23.1	19.1	22.1	50	..	7.6	..	29.2	0	19	11	4	0	2	0	1	8	12	1	2	0
Bijapur	0830	594	1005.5	940.2	+0.2	24.9	22.8	21.8	26.1	83	+10	7.3	+2.3	4.7	0	0	30	2	0	2	0	0	5	16	5	0	0
	1730	..	1000.6	936.7	..	27.3	23.8	21.0	24.9	62	..	7.5	..	5.5	0	0	30	5	0	1	1	0	2	20	1	0	0
Belgaum	0830	753	1006.2	923.1	-0.9	22.9	21.5	20.8	24.6	88	+5	6.4	0	6.8	0	0	27	0	0	0	0	0	1	24	2	3	0
	1730	..	1603.7	922.0	..	24.4	21.9	20.7	24.4	81	..	7.4	..	12.8	0	0	30	0	0	0	1	1	0	23	5	0	0
Belgaum (Sambre Aerodrome)	0530	747	1005.4	923.3	..	21.8	20.9	20.6	24.3	93	..	6.1	..	10.2	0	6	20	0	0	0	0	0	1	25	0	4	0
	0830	..	1006.4	924.7	..	23.5	21.7	21.0	24.9	86	..	6.6	..	11.1	0	4	23	0	0	0	0	0	0	24	3	3	0
	1130	..	1005.7	924.7	..	26.1	22.8	21.3	25.3	76	..	6.6	..	14.9	0	8	20	0	0	1	0	0	3	22	2	2	0
	1730	..	1003.6	922.6	..	25.1	22.4	21.3	25.3	80	..	6.9	..	25.4	0	25	5	0	0	0	0	0	2	28	0	0	0
Gadag	0830	650	1006.4	935.1	-0.1	24.3	22.2	21.3	25.3	84	+3	6.7	+1.3	10.4	0	1	26	0	0	0	0	0	12	14	1	3	0
	1730	..	1002.9	932.6	..	27.2	22.9	20.8	24.6	70	..	6.9	..	11.4	0	2	24	0	0	1	0	0	9	14	2	4	0
Gadag (P.B.O.)	0530	661	1005.2	932.3	..	22.1	21.1	20.6	24.3	91	..	6.5	..	13.8	0	2	26	0	0	0	0	0	6	21	1	2	0
	0830	..	1006.2	933.7	..	23.9	22.0	21.2	25.2	85	..	6.4	..	13.4	0	1	28	0	0	0	0	0	4	24	1	1	0
	1130	..	1005.2	933.6	..	27.5	22.9	21.1	25.0	70	..	6.6	..	13.5	0	4	25	0	0	0	1	0	6	21	1	1	0
	1730	..	1002.5	931.0	..	27.2	22.5	20.5	24.1	69	..	6.9	..	15.1	0	8	19	2	0	0	0	1	7	17	0	3	0
	2330	..	1006.5	933.7	..	23.1	21.7	21.6	24.9	88	..	5.9	..	15.9	0	6	23	0	0	0	0	0	11	18	0	1	0
Raichur	0830	400	1004.2	961.3	+0.2	26.4	23.8	22.4	27.1	79	+10	4.7	+0.7	10.7	0	2	28	2	0	5	1	3	7	11	1	0	0
	1730	..	1000.4	957.4	..	31.6	24.9	21.2	25.2	60	..	4.8	..	13.5	0	5	23	3	1	2	1	4	7	8	2	2	0
Interior Mysore (South) Bellary	0830	449	1005.6	956.0	-0.2	26.5	22.9	21.1	25.0	73	+12	5.5	+0.2	9.9	0	0	28	0	0	0	2	0	5	0	21	2	0
	1730	..	1001.3	952.6	..	30.5	23.4	19.8	23.1	55	..	6.5	..	9.7	0	0	27	0	0	0	1	0	10	0	16	3	0
Chitaldrug	0830	733	1006.4	926.1	0	23.2	21.0	19.9	23.2	82	+5	7.2	+1.0	11.6	0	0	29	0	0	0	0	0	14	14	1	1	0
	1730	..	1002.7	923.7	..	27.0	21.8	19.2	23.2	64	..	7.2	..	7.6	0	0	25	0	0	0	0	0	2	23	0	5	0
Shimoga	0830	571	1007.0	943.9	..	23.8	21.9	21.1	25.0	85	..	6.8	..	3.5	0	0	20	0	0	0	0	3	9	7	1	10	0
	1730	..	1004.3	941.9	..	29.7	22.5	20.8	24.7	74	..	6.6	..	6.0	0	0	30	0	0	0	1	0	9	20	0	0	0
Balehonnur	0830	..	..	..	..	20.5	19.8	19.4	22.5	94	+2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	1468.5	901.3	..	23.3	21.8	20.0	23.4	83	..	7.4	..	12.5	0	0	29	0	0	0	0	0	4	24	1	1	0
Mysore	0830	767	1007.6	923.5	-0.2	22.4	20.6	19.5	22.7	84	+6	5.8	-0.4	10.0	0	2	25	0	1	0	1	0	9	13	3	3	0
	1730	..	1004.5	921.5	..	25.9	21.3	18.8	21.7	67	..	6.5	..	13.2	0	8	20	0	2	0	0	1	7	17	1	2	0
Bangalore (Central Observatory)	0230	921	1465.0	905.6	..	20.6	19.6	19.2	22.2	91	..	4.8	..	14.4	0	2	27	0	1	0	0	0	4	21	3	1	0
	0830	..	1479.5	906.9	-0.2	21.9	20.2	19.3	22.4	86	+6	6.9	+0.6	15.1	0	2	28	0	0	0	0	0	6	17	7	0	0
	1130	..	1485.6	906.8	..	25.3	21.2	19.1	22.1	69	..	7.1	..	15.5	0	4	26	1	0	1	0	0	6	17	5	0	0
	1730	..	1463.4	904.6	..	25.0	20.9	18.8	21.7	71	..	7.4	..	14.3	0	2	28	0	2	0	0	1	6	17	4	0	0
Bangalore (Aerodrome)	0530	897	1463.5	908.1	..	20.4	19.8	19.5	22.7	95	..	6.8	..	16.0	0	10	18	0	1	0	0	0	17	10	0	2	0
	0830	..	1480.0	909.4	..	22.3	20.6	19.7	22.9	85	..	7.0	..	10.3	0	13	14	0	0	0	0	0	8	17	2	3	0
	1130	..	1485.9	909.3	..	25.8	21.8	19.8	23.1	71	..	6.9	..														

**MONTHLY MEANS OF UPPER WINDS,
June, 1959 (Jyaistha 11—Asadha 9, 1881 Saka)**

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations, were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of these stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the Table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a.m.s.l. are given under Table IV and data above 9.0 km. a.m.s.l. under Table V.

In Tables IV and V :

n— represents the number of observations,

V—represents the mean wind speed in metres per second* irrespective of direction,

v— represents the resultant mean velocity in metres per second*,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km. a.g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a.m.s.l. Of these the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1, and 16.2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)			
Agartala	23°53'	91°15'	17	28th November, 1951	0530	1130	1730	2330
Ahmedabad	23°04'	72°38'	61	19th May, 1928	0530	1730	2330	
Amausi	26°45'	80°53'	132	20th November, 1950	0530	1730	2330	
Ambala	30°23'	76°46'	279	1st April, 1941	0530	1730	2330	
Amritsar	31°38'	74°52'	243	21st June, 1957	0530*	1730*		
Anantapur	14°41'	77°37'	364	12th February, 1946	0530	1730	2330	
Asansol	23°41'	86°59'	135	29th May, 1942	0530	1130	1730	2330
Baghdogra	26°38'	88°19'	140	7th June, 1953	0530	1130	1730	2330
Bairagarh	23°17'	77°21'	532	26th February, 1943	0530	1730	2330	
Bajpe	12°55'	74°53'	109	25th May, 1959	0530	1730	2330	
Bamrauli	25°27'	81°44'	103	28th February, 1930	0530*	1130	1730*	2330
Bangalore	12°58'	77°35'	936	19th May, 1915	0530	1730	2330	
Barcilly	28°22'	79°24'	180	12th January, 1943	0530	1730		
Begumpe:	17°27'	78°28'	543	1st September, 1929	0530	1730	2330	
Bhagalpur	25°14'	86°57'	61	19th May, 1950	0530	1130	1730	
Bhubaneshwar	20°15'	85°50'	54	5th December, 1942	0530	1130	1730	2330
Bhuj	23°15'	69°48'	90	14th September, 1937	0530	1730	2330	
Bikaner	28°00'	73°18'	229	18th October, 1946	0530	1730	2330	
Chikalhana	19°51'	75°24'	583	7th October, 1951	0530	1730	2330	
Cochin†	09°56'	76°14'	13	16th March, 1942	0530	1730	2330	
Darjeeling	27°03'	88°16'	2115	21st May, 1956	0530	1730		
Dehra Dun.	30°19'	78°03'	692	1st October, 1958	0530	1730		
Dum Dum	22°39'	88°27'	13	14th May, 1921	0530*	1130	1730*	2330
Gadag	15°25'	75°38'	650	3rd May, 1943	0530	1730	2330	
Gannavaram	16°32'	80°48'	34	8th April, 1942	0530	1730	2330	
Gauhati	26°05'	91°43'	51	12th March, 1955	0530*	1130	1730*	2330
Gaya	24°45'	84°57'	119	19th March, 1937	0530	1130	1730	2330
Gopalpur	19°16'	84°53'	24	15th February, 1946	0530	1730	2330	
Gorakhpur	26°45'	83°22'	83	5th January, 1943	0530	1730		
Gwalior	26°14'	78°15'	208	7th May, 1938	0530	1730	2330	
Imphal	24°51'	93°58'	805	8th March, 1952	0530	1130	1730	2330
Jabalpur	23°10'	79°57'	402	30th July, 1928	0530	1730	2330	
Jagdalpur	19°05'	82°02'	562	25th March, 1948	0530	1730	2330	
Jaipur	26°49'	75°48'	404	6th June, 1953	0530	1730	2330	
Jamshedpur	22°49'	86°11'	147	23rd July, 1942	0530	1130	1730	
Jharsuguda	21°55'	84°05'	240	1st May, 1944	0530	1730	2330	
Jodhpur	26°18'	73°01'	229	15th October, 1934	0530*	1130	1730*	2330
Madras	13°00'	80°11'	29	8th April, 1926	0530*	1130	1730*	2330
Minicoy	08°18'	73°00'	16	14th April, 1941	0530	1730	2330	
Mohanbari	27°29'	95°01'	112	1st June, 1948	0530	1130	1730	2330
Nagpur	21°06'	79°03'	316	23rd April, 1943	0530*	1130	1730*	2330
Nanpara	27°50'	81°30'	142	23rd April, 1957	0530	1730		
New Delhi	28°35'	77°12'	227	20th October, 1936	0530*	1130	1730*	2330
Poona	18°32'	73°51'	593	5th January, 1925	0530	1730	2330	
Port Blair	11°40'	92°43'	93	29th October, 1945	0530*	1130	1730*	2330
Raipur	21°14'	81°39'	308	15th July, 1944	0530	1730	2330	
Raxaul	26°59'	84°51'	83	28th October, 1957	0530	1130	1730	
Santa Cruz.	19°07'	72°51'	27	14th May, 1933	0530*	1130	1730*	2330
Tezpur	26°37'	92°47'	79	12th August, 1932	0530	1130	1730	2330
Tiruchirapalli	10°46'	78°43'	96	22nd June, 1936	0530	1730	2330	
Trivandrum	08°29'	76°57'	73	8th December, 1928	0530*	1130	1730*	2330
Udaipur	24°35'	73°42'	587	24th June, 1947	0530	1730	2330	
Vengurla	15°52'	73°38'	8	22nd November, 1941	0530	1730	2330	
Veraval	20°54'	70°22'	17	13th October, 1941	0530*	1130	1730*	2330
Visakhapatnam	17°43'	83°14'	10	24th September, 1928	0530	1730	2330	

*Radiowind ascents.
†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km above mean sea level

June, 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1130				1730				2330				0530				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.2	1.8	145	15	2.7	2.4	175	30	2.7	1.5	169	30	2.4	2.0	154	30	3.1	2.2	231	30	5.1	3.5	231				
0.15 a. g. . .	27	6.8	5.7	154	11	5.8	5.0	182	26	7.3	3.2	168	29	7.7	7.3	190	30	6.3	4.9	235	29	6.1	4.5	222				
0.3 a.m.s.l. . .	27	8.0	6.5	178	11	6.4	5.3	183	26	6.2	4.5	175	29	9.1	8.5	181	30	7.5	6.0	236	29	6.9	5.3	219				
0.6 „ . . .	26	9.0	7.7	190	10	7.5	5.8	197	26	7.3	5.8	183	29	9.8	9.4	190	28	8.6	7.5	253	29	7.4	6.0	221				
0.9 „ . . .	25	8.6	7.4	197	10	8.5	6.0	208	25	7.3	5.7	197	26	8.2	7.6	194	23	7.4	6.9	260	29	7.2	5.9	219				
1.5 „ . . .	22	6.9	4.9	200	7	7.4	5.5	253	21	5.5	3.8	193	24	6.3	5.5	196	22	6.1	4.8	237	27	7.2	6.3	250				
2.1 „ . . .	19	6.5	3.8	209	2	8.2	8.2	283	19	5.7	2.6	226	23	5.3	4.1	206	18	5.4	1.6	200	22	6.8	5.2	259				
3.0 „ . . .	14	5.4	3.9	268					17	6.1	2.9	253	19	4.9	2.5	231	13	6.1	0.6	221	21	5.4	1.7	288				
3.6 „ . . .	12	5.5	4.5	266					15	6.2	3.9	271	10	6.5	2.6	240	1	7.7	7.7	055	18	5.6	0.6	335				
4.5 „ . . .	9	6.1	2.9	259					8	5.1	1.5	265	7	5.6	2.5	253	1	8.7	8.7	050	18	5.9	1.5	088				
5.4 „ . . .	6	5.6	2.2	279					5	4.1	1.4	308	5	3.6	0.6	305					16	5.3	1.3	056				
6.0 „ . . .	6	6.5	2.2	358					4	5.1	1.9	322	3	2.1	0.5	308					12	4.2	2.8	064				
7.2 „ . . .	2	4.6	4.6	058					2	7.2	3.5	302									7	4.7	0.6	320				
9.0 „ . . .																												

Station	AHMEDABAD				AMAUSI								AMBALA															
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	4.0	2.9	220	30	2.0	0.6	135	30	3.0	0.5	042	30	2.0	1.2	104	30	2.7	1.2	114	30	2.4	1.7	295				
0.15 a.g. . .	28	7.1	5.0	224	29	6.4	2.0	163	30	4.9	1.1	024	30	6.6	2.6	125	29	7.7	3.5	104	30	5.3	3.9	299				
0.3 a.m.s.l. . .	28	7.9	5.7	226	29	6.9	2.1	183	30	4.9	1.3	024	30	6.6	2.8	124	29	4.4	1.6	104	30	3.3	2.4	299				
0.6 „ . . .	28	8.9	7.1	241	29	8.4	2.8	230	30	5.3	0.6	359	30	6.4	2.0	130	29	8.1	2.7	107	30	6.2	4.5	297				
0.9 „ . . .	26	8.5	7.4	253	29	7.9	3.4	263	29	5.1	2.5	294	30	5.5	0.7	219	29	7.5	0.9	082	30	6.9	5.3	299				
1.5 „ . . .	25	6.7	5.3	251	27	7.2	5.7	282	29	6.6	4.8	298	28	5.3	4.2	281	29	6.2	3.5	304	30	7.7	6.4	299				
2.1 „ . . .	25	4.8	2.0	237	26	7.6	6.5	295	28	8.1	6.8	304	25	7.0	5.8	295	29	6.5	5.3	305	30	8.5	7.6	299				
3.0 „ . . .	18	5.0	2.4	122	22	8.4	7.4	319	24	10.0	8.5	312	15	6.4	5.8	304	25	7.2	5.9	309	28	10.8	9.5	312				
3.6 „ . . .					10	8.6	6.6	332	23	10.1	8.4	308	5	7.5	6.2	321	19	7.8	6.4	328	24	11.8	10.4	320				
4.5 „ . . .					6	7.2	5.6	354	17	10.2	8.9	300					11	8.4	8.0	328	20	12.4	10.6	321				
5.4 „ . . .					1	8.7	8.7	285	14	10.6	9.3	301					9	7.5	6.3	306	15	13.4	11.3	316				
6.0 „ . . .					1	9.8	9.8	250	10	10.0	7.8	303					7	7.0	5.9	302	13	12.4	9.6	321				
7.2 „ . . .					1	11.8	11.8	280	2	10.6	10.4	286					3	14.3	13.7	243	9	13.9	12.3	304				
9.0 „ . . .																					6	17.3	14.6	278				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June, 1959 (Jyaishta 11—Asadha 9, 1881 Saka)

Station	AMBALA				AMRITSAR								ANANTAPUR															
	2330				0530*				1730*				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.6	0.4	280	30	2.5	0.7	149	30	2.5	1.0	270	30	4.3	4.1	267	30	5.3	4.6	268	30	6.0	5.6	262				
0.15 a.g.	30	7.6	2.6	312	30	2.5	0.7	150	30	2.5	1.0	270	30	8.0	7.6	259	27	8.5	7.6	260	28	10.1	9.5	257				
0.3 a.m.s.l.	30	3.9	1.2	303	30	3.3	0.4	157	30	2.5	1.0	270																
0.6 "	30	7.5	3.1	312	30	7.1	1.2	262	30	5.3	2.8	277	30	8.8	8.3	261	27	8.4	7.6	263	28	10.7	9.8	258				
0.9 "	30	7.1	4.3	308	30	6.4	2.1	291	30	4.8	2.9	273	30	11.5	10.4	272	27	8.6	7.7	266	28	11.7	11.0	261				
1.5 "	30	6.8	5.8	308	30	6.5	3.7	286	30	4.4	3.1	271	30	11.2	9.9	282	27	9.5	8.7	270	28	11.6	10.8	269				
2.1 "	30	7.8	6.6	306	30	5.8	3.8	298	30	4.8	3.8	282	28	9.6	7.8	281	27	9.5	7.6	272	27	9.4	7.4	278				
3.0 "	19	7.6	5.4	307	30	6.2	4.2	303	30	6.2	5.4	318	23	7.1	3.8	277	22	10.0	6.9	279	21	8.8	5.6	286				
3.6 "	5	8.3	5.0	321	30	6.8	5.5	309	29	7.4	6.2	324	20	7.4	2.6	252	18	8.1	3.8	287	18	8.1	3.5	283				
4.5 "					30	7.9	6.3	324	29	8.6	7.0	327	16	6.4	1.9	192	16	7.8	1.7	295	5	7.4	1.5	152				
5.4 "					29	8.3	6.4	314	29	8.4	6.7	317	12	6.8	2.6	149	11	8.4	2.5	055	2	10.0	10.0	097				
6.0 "					28	9.8	8.3	310	29	9.2	7.5	307	10	7.3	4.6	138	10	8.4	0.9	090	2	10.3	10.3	090				
7.2 "					27	13.4	11.1	295	29	12.7	11.1	296	5	7.4	6.1	111	5	7.3	6.9	109								
9.0 "					26	16.0	13.5	276	22	14.2	12.7	283					4	6.9	6.4	114								

Station	ASANSOL												BAGHDOGRA															
	0530				1130				1730				2330				0530			1130								
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.7	1.4	175	15	1.5	0.3	248	30	2.4	1.3	146	30	2.2	1.4	166	30	2.3	1.9	070	15	2.7	2.5	087				
0.15 a.g.	28	5.5	3.6	190	15	4.3	1.4	266	30	5.8	3.3	153	30	6.2	4.5	176	16	5.2	5.0	077	12	2.8	2.7	091				
0.3 a.m.s.l.	28	5.9	3.6	200	15	4.5	1.9	242	30	5.8	3.3	156	30	6.6	4.7	177	15	5.7	5.5	080	12	2.9	2.8	093				
0.6 "	26	8.8	6.3	233	15	4.9	2.4	264	30	6.3	3.3	165	29	7.9	5.7	190	15	6.3	6.1	090	11	5.9	2.2	094				
0.9 "	26	8.4	6.2	242	14	6.0	4.4	282	30	6.2	2.7	177	29	7.3	5.1	199	12	6.4	6.2	095	10	3.8	3.4	101				
1.5 "	24	6.2	5.2	259	10	7.0	6.3	292	26	5.5	0.2	255	29	5.6	2.9	210	10	6.9	4.9	098	5	4.2	3.6	084				
2.1 "	23	5.1	3.5	299	7	6.6	5.3	296	24	6.4	4.2	295	28	6.2	2.7	199	6	6.2	3.3	090	3	3.6	3.5	109				
3.0 "	16	5.8	5.1	313	4	8.5	8.2	303	20	7.0	5.3	301	23	5.8	3.7	220	2	3.9	2.4	110								
3.6 "	14	7.2	5.9	307					16	7.1	6.0	306	18	4.6	2.3	341	2	5.4	4.0	112								
4.5 "	7	7.2	6.2	282					10	5.9	4.0	319	11	4.9	3.0	310	1	8.2	8.2	040								
5.4 "	3	5.1	3.0	335					8	5.4	3.9	335	9	4.7	1.1	024	1	13.9	13.9	060								
6.0 "	1	10.8	10.8	005					6	4.4	2.2	017	4	7.7	3.2	046	1	9.8	9.8	060								
7.2 "									4	2.8	2.1	343	2	8.5	8.2	054												
9.0 "									3	3.4	2.8	020																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June, 1959 (Jyais̥tha II—Asadha, 1881 Saka)

Station	BHUBANESHWAR												BHUJ											
	1130				1730				2330				0530				1730				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	15	3.1	2.2	240	30	6.0	4.2	188	30	4.5	2.7	210	30	4.1	3.3	238	30	5.7	4.6	243	28	6.2	5.4	239
0.15 a.g.	14	3.8	2.5	247	28	8.7	6.4	185	29	8.3	5.3	211	30	7.3	6.0	234	30	7.4	6.8	236	28	17.5	7.4	217
0.3 a.m.s.l.	14	4.2	3.0	248	28	8.2	6.7	188	29	9.1	6.3	219	30	8.1	6.8	235	30	8.1	7.5	237	28	8.3	7.7	234
0.6 "	14	5.6	4.2	262	28	7.2	4.8	196	28	9.3	6.3	219					30	8.6	7.6	238	28	9.3	8.5	211
0.9 "	14	6.8	5.7	280	27	5.7	2.5	230	26	7.4	5.7	222	30	9.7	8.2	243	29	8.6	7.3	242	28	8.8	7.4	240
1.5 "	13	7.0	6.3	284	25	6.0	2.7	229	26	6.1	3.3	259	30	9.2	7.5	206	26	6.0	4.3	267	25	5.8	3.4	250
2.1 "	10	6.6	5.7	296	24	5.0	2.5	306	23	5.2	2.4	293	23	6.8	3.3	250	24	4.7	1.8	288	21	5.2	1.5	225
3.0 "	5	5.9	5.5	312	21	5.3	2.4	334	17	5.3	0.5	289	20	5.8	0.5	192	23	5.2	1.3	314	12	9.7	2.5	115
3.6 "					15	4.2	1.1	034	7	4.6	1.6	031	17	6.2	1.0	028	23	6.1	1.1	311	7	4.8	2.7	062
4.5 "					11	3.5	0.7	334					6	5.3	3.4	032	21	6.1	1.4	139	4	6.1	2.9	065
5.4 "					10	2.6	0.8	195					3	6.8	6.3	066	20	6.4	3.1	026	2	3.6	3.5	100
6.0 "					9	2.6	0.5	147									20	5.7	2.5	037	2	5.7	3.2	106
7.2 "					3	1.7	0.6	169									9	7.5	3.1	064	2	3.9	3.8	125
9.0 "					1	2.6	2.6	080									1	8.7	8.7	090				

Station	BIKANER												CHIKALTHANA											
	0530				1730				2330				0530				1730				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.2	3.0	225	30	2.2	1.5	217	30	3.0	2.5	207	30	4.3	4.0	271	30	5.9	5.0	265	30	5.3	4.9	267
0.15 a.g.	30	10.0	9.5	235	30	5.6	4.2	232	30	9.0	7.4	215	30	9.2	7.8	279	29	8.1	5.9	265	28	9.4	8.4	268
0.3 a.m.s.l.	30	7.5	6.8	235	30	4.9	3.5	226	30	6.8	5.4	202												
0.6 "	29	12.3	12.0	248	30	5.5	4.2	240	30	9.6	8.1	223												
0.9 "	29	12.1	11.6	250	30	5.8	4.2	238	30	9.1	7.4	229	30	10.7	9.1	287	29	8.8	7.1	275	28	10.5	9.1	281
1.5 "	25	7.5	6.6	251	28	5.7	4.2	242	27	7.0	4.9	243	30	10.8	8.0	301	27	6.9	4.9	286	27	9.7	2.3	287
2.1 "	23	6.4	3.2	234	24	5.1	3.1	260	23	5.0	3.6	267	24	6.0	2.2	296	24	7.5	5.5	293	23	8.4	4.1	339
3.0 "	19	5.2	0.6	223	17	4.0	2.0	284	16	4.3	1.7	310	17	5.1	1.8	162	12	8.9	5.0	302	16	6.0	3.2	102
3.6 "	14	6.2	1.0	052	15	5.3	2.3	328	6	4.7	2.7	037	8	4.6	2.4	158	7	6.4	1.9	248	12	5.8	1.9	122
4.5 "	5	6.2	2.9	357	14	4.7	3.1	333	3	2.6	2.1	044	5	6.0	3.6	147	2	8.0	4.8	188	6	6.1	1.1	086
5.4 "	3	7.1	2.3	358	13	6.8	4.9	300	2	3.3	0.8	029					1	5.7	5.7	135				
6.0 "	2	3.9	3.8	005	12	6.9	5.7	296									1	3.6	3.6	115				
7.2 "	1	1.5	1.5	095	9	8.8	6.8	260									1	3.6	3.6	090				
9.0 "					2	16.7	16.7	194																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June, 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	COCHIN												DARJEELING								DEHRA DUN							
	0530				1730				2330				0530				1730				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.4	0.3	026	30	3.0	2.1	252	30	2.2	1.1	276	30	0.9	0.6	240	30	1.5	0.6	250	30	0.9	0.7	013				
0.15 a.g. . .	22	3.5	0.7	338	19	4.5	3.8	274	12	3.4	1.9	279	3	2.2	1.2	222					29	2.0	1.0	045				
0.3 a.m.s.l. . .	22	4.9	3.8	283	19	6.2	5.5	280	12	3.9	2.7	282																
0.6 „ . . .	22	7.5	6.7	284	19	8.2	7.6	283	12	6.3	5.3	281																
0.9 „ . . .	22	8.9	8.3	285	19	9.3	8.6	286	12	8.1	7.1	285									29	2.1	0.8	078				
1.5 „ . . .	22	10.2	9.7	283	17	9.5	9.0	289	11	9.5	8.5	285									28	2.6	0.7	185				
2.1 „ . . .	20	10.4	9.2	282	15	9.7	9.0	284	9	8.3	7.3	275									27	3.6	2.4	247				
3.0 „ . . .	8	6.8	2.7	290	5	11.1	10.8	280	6	7.6	5.2	270	3	3.4	1.3	320					24	7.4	7.0	310				
3.6 „ . . .	8	7.2	2.6	282	4	11.2	11.0	284	2	5.9	3.8	162	3	3.2	1.8	300					21	9.3	8.3	310				
4.5 „ . . .	6	8.2	1.7	195	2	8.0	7.9	300					2	7.2	6.6	054					10	7.9	7.6	317				
5.4 „ . . .	2	10.0	2.6	175	1	2.1	2.1	150					2	9.0	5.2	020					6	5.9	5.9	293				
6.0 „ . . .	1	6.7	6.7	100									2	8.5	3.3	054					5	7.8	6.8	309				
7.2 „ . . .													2	7.7	1.2	253					2	6.2	6.1	298				
9.0 „ . . .													1	10.8	10.8	285					2	9.5	8.0	281				

Station	DEHRA DUN				DUM DUM												GADAG											
	1730				0530*				1130				1730*				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.2	1.0	276	30	1.9	1.2	180	30	3.8	2.3	174	30	3.0	2.0	157	30	3.0	2.1	170	30	4.3	4.0	265				
0.15 a.g. . .	30	3.3	2.0	270	30	6.1	4.6	202	27	6.3	4.7	189	30	6.1	4.2	179	29	7.1	5.8	193	25	8.4	8.0	260				
0.3 a.m.s.l. . .					30	7.3	5.3	207	27	7.1	5.3	191	30	6.5	4.4	179	29	8.4	6.9	197								
0.6 „ . . .					30	7.9	5.6	210	27	7.0	4.5	192	30	6.8	4.1	188	29	9.2	7.3	205								
0.9 „ . . .	30	4.1	2.5	270	30	8.1	5.9	217	26	6.9	4.4	213	30	6.8	3.4	191	25	7.5	6.1	215	25	10.0	5.5	277				
1.5 „ . . .	30	5.0	4.4	269	30	7.3	4.4	223	18	6.2	4.1	246	30	5.9	1.5	230	21	5.3	3.0	244	19	9.1	7.9	280				
2.1 „ . . .	29	6.1	5.2	277	30	6.4	2.7	250	16	5.8	2.5	252	30	5.5	1.6	294	17	4.0	1.3	272	14	6.3	2.1	298				
3.0 „ . . .	20	7.9	6.7	296	30	6.5	2.4	286	11	4.5	2.5	283	30	5.3	2.0	301	13	4.4	2.6	343	6	4.0	3.2	126				
3.6 „ . . .	19	7.8	6.3	305	30	5.6	2.0	298	8	5.1	1.9	295	30	5.1	1.9	294	2	4.1	4.1	276	3	3.8	0.4	163				
4.5 „ . . .	18	5.9	4.2	323	30	5.8	2.3	275	3	5.5	5.1	072	30	6.6	2.3	300					1	6.2	6.2	140				
5.4 „ . . .	16	7.9	5.7	319	29	6.2	1.7	272	1	7.7	7.7	072	30	6.5	2.1	266												
6.0 „ . . .	12	7.7	4.8	283	29	5.8	0.9	262	1	7.2	7.2	075	30	6.2	1.4	242												
7.2 „ . . .	12	12.5	10.4	284	29	5.8	1.3	216					30	6.0	1.7	268												
9.0 „ . . .	10	13.9	12.5	276	26	4.6	1.8	144					26	5.3	0.5	020												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June, 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	GADAG								GANNAVARAM								GAUHATI											
	1730				2330				0530				1730				2330				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	4.7	4.1	257	30	4.9	4.6	253	30	2.6	1.9	251	30	3.6	1.8	246	30	3.2	2.0	208	30	1.0	0.8	085				
0.15 a.g. . .	27	7.9	7.1	255	29	9.2	9.0	255	26	5.6	3.5	245	27	5.7	2.9	243	27	6.7	4.5	208	29	2.8	1.3	085				
0.3 a.m.s.l. .									26	7.6	5.4	252	27	6.5	3.2	246	27	7.7	5.0	214	29	3.0	1.2	093				
0.6 „ . . .									24	9.4	6.6	257	27	7.2	3.5	255	27	8.5	5.4	225	29	3.7	0.8	109				
0.9 „ . . .	27	8.5	7.6	260	29	10.4	10.0	263	24	9.4	6.0	266	27	7.6	4.1	267	27	7.6	4.4	235	27	5.2	1.0	195				
1.5 „ . . .	24	8.9	7.5	266	24	9.5	8.7	276	23	6.4	3.7	275	26	7.4	5.6	287	23	6.5	3.1	268	27	7.2	3.5	224				
2.1 „ . . .	14	5.2	3.8	295	19	5.8	3.2	286	21	4.8	1.3	259	25	7.5	5.3	301	20	6.2	3.1	286	26	7.5	5.1	235				
3.0 „ . . .	6	4.2	0.1	322	14	4.1	0.5	092	19	4.9	0.3	026	18	6.2	2.5	331	15	5.3	0.3	112	25	6.7	4.3	240				
3.6 „ . . .	6	5.0	1.2	101	12	5.1	0.8	350	17	5.3	0.4	066	12	5.0	1.4	068	9	4.2	1.6	265	26	6.7	5.0	248				
4.5 „ . . .	2	4.1	4.1	109	7	3.6	1.3	076	10	5.7	0.7	087	6	4.1	2.1	164	7	4.1	1.9	118	25	6.3	3.9	235				
5.4 „ . . .	2	4.4	4.3	133	4	5.4	3.5	135	7	5.3	3.0	064	5	4.2	2.5	152	5	4.2	3.5	115	25	7.5	4.8	242				
6.0 „ . . .	1	3.1	3.1	055	1	1.0	1.0	190	5	5.5	3.3	081	5	4.0	3.0	148	3	4.8	3.9	119	25	10.0	5.1	241				
7.2 „ . . .	1	8.7	8.7	085					2	1.8	1.3	116	4	5.6	2.4	111					25	8.9	5.9	243				
9.0 „ . . .													2	10.0	9.9	109					21	9.3	5.7	264				

Station	GAUHATI								GAYA																			
	1130				1730*				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.9	1.5	017	30	0.5	0.1	170	30	0.9	0.2	040	30	2.1	0.8	165	15	4.1	0.4	242	29	3.4	1.2	160				
0.15 a.g. . .	25	3.8	3.1	030	30	2.4	0.4	060	27	2.6	1.5	065	30	6.2	2.6	199	15	5.6	0.3	357	29	5.8	0.9	122				
0.3 a.m.s.l. .	25	4.1	3.1	036	30	2.9	0.5	070	27	1.7	1.6	074	30	6.7	2.5	183	15	5.7	0.7	323	29	5.6	0.9	111				
0.6 „ . . .	24	4.1	2.2	047	30	3.7	0.9	279	27	3.4	1.4	083	30	7.4	3.9	243	14	5.1	1.3	309	29	5.7	0.9	089				
0.9 „ . . .	24	4.6	0.7	050	29	5.0	2.1	245	26	4.6	1.8	183	27	7.8	4.8	265	13	4.7	2.5	286	29	5.6	0.7	063				
1.5 „ . . .	21	6.2	1.8	208	29	6.9	5.0	240	19	5.8	4.4	232	27	6.7	4.3	276	10	5.7	4.1	302	27	4.9	2.0	293				
2.1 „ . . .	15	6.9	3.3	240	28	7.8	6.6	252	13	6.2	4.5	222	26	6.6	4.8	290	9	5.9	4.1	330	25	5.3	4.2	296				
3.0 „ . . .	5	3.5	1.1	225	28	8.2	5.9	259	5	3.3	3.0	224	22	8.3	6.4	302	6	6.7	4.8	003	21	7.9	6.6	311				
3.6 „ . . .	3	4.0	1.9	214	28	8.5	6.1	259	2	2.8	2.8	228	16	7.9	4.8	310	1	14.9	14.9	315	18	7.3	6.1	314				
4.5 „ . . .	2	4.6	4.6	243	28	8.0	5.5	257	2	4.9	4.9	234	14	7.2	2.6	295					12	7.4	5.5	320				
5.4 „ . . .	1	7.2	7.2	250	27	7.3	4.3	254	2	5.7	5.5	255	12	7.1	2.2	187					10	9.2	5.6	311				
6.0 „ . . .	1	7.7	7.7	245	27	7.7	4.4	255	2	5.4	5.3	255	9	7.6	1.7	181					8	7.3	2.9	302				
7.2 „ . . .	1	7.2	7.2	255	27	8.4	4.8	265					5	7.7	4.9	109					6	7.5	2.7	344				
9.0 „ . . .	1	7.2	7.2	225	22	8.5	4.8	289					3	6.0	3.7	195					4	8.4	7.7	277				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	GAYA				GOPALPUR								GORAKHPUR															
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.4	1.4	173	30	3.0	2.4	227	30	6.9	5.1	207	30	4.4	3.7	210	30	2.7	1.9	060	30	2.5	0.6	032				
0.15 a.g.	30	6.9	3.9	181	28	6.4	4.4	220	29	8.2	6.2	204	28	6.4	5.5	216	30	7.0	4.4	094	30	4.6	0.9	034				
0.3 a.m.s.l.	30	7.5	4.1	179	28	6.8	4.6	235	29	8.7	6.8	206	28	6.7	5.6	223	30	7.9	5.0	103	30	4.7	0.9	054				
0.6 "	29	7.7	4.1	181	28	6.4	3.8	244	28	7.1	4.9	213	28	6.1	4.6	231	30	7.7	4.4	126	30	4.9	0.5	087				
0.9 "	29	7.2	3.3	187	28	6.2	3.5	255	27	4.5	2.9	230	28	5.5	3.4	235	29	7.4	3.8	136	30	5.0	0.3	148				
1.5 "	28	5.9	2.1	210	25	6.1	3.0	274	26	4.6	2.2	301	26	4.6	2.6	299	27	7.8	2.6	258	30	6.5	2.0	268				
2.1 "	26	5.7	3.5	277	23	4.8	2.6	080	25	5.7	2.4	322	25	4.8	2.2	309	27	8.7	4.6	284	26	8.0	7.2	289				
3.0 "	22	7.1	4.1	307	21	5.6	2.6	316	23	6.0	2.0	008	21	5.0	1.8	318	18	10.2	5.9	297	25	10.4	9.5	292				
3.6 "	13	6.7	3.5	324	20	5.6	3.1	335	20	5.4	1.4	021	13	5.0	2.5	325	13	10.3	7.8	302	24	10.8	8.7	291				
4.5 "	1	9.8	9.8	085	15	6.2	2.9	348	19	5.5	0.8	325	4	3.8	2.9	299	8	7.8	4.6	323	23	9.6	8.5	295				
5.4 "					9	4.1	2.9	090	19	5.4	0.4	336	2	4.6	4.4	341	2	6.4	6.3	051	22	8.5	7.1	299				
6.0 "					8	5.0	4.3	101	15	5.6	1.7	165	1	2.1	2.1	101	2	5.9	5.8	071	20	8.6	6.7	304				
7.2 "					6	5.7	5.1	267	10	5.1	3.7	064					2	11.8	11.8	027	19	9.5	6.6	294				
9.0 "					2	5.1	4.9	054	8	6.9	5.5	098					2	10.3	10.0	332	11	9.5	5.4	293				

Station	GWALIOR								IMPHAL																			
	0530				1730				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.2	2.9	264	30	3.0	2.4	268	30	2.5	1.9	234	30	0.5	0.4	126	15	2.0	1.3	224	30	2.1	1.3	240				
0.15 a.g.	30	7.8	6.3	269	30	5.7	3.4	273	30	7.3	5.5	244	24	1.4	0.5	173	11	2.6	1.7	208	26	3.5	2.4	239				
0.3 a.m.s.l.	30	6.3	5.3	265	30	5.1	3.0	272	30	5.9	4.5	239																
0.6 "	30	10.7	8.7	282	30	5.8	3.9	279	30	7.7	5.5	254																
0.9 "	30	10.5	8.1	290	30	5.7	3.9	287	30	6.9	4.5	265	24	1.2	0.4	154	11	2.7	1.4	194	26	3.2	2.3	238				
1.5 "	30	7.3	5.6	300	29	6.0	4.2	298	30	5.5	3.3	289	23	4.1	2.2	231	11	2.9	2.6	208	25	4.4	2.6	249				
2.1 "	28	5.3	4.2	318	27	6.4	5.4	308	29	5.3	2.9	315	15	5.3	2.9	231	9	4.7	3.3	218	20	6.1	3.7	244				
3.0 "	25	5.7	4.0	342	23	7.6	6.3	315	23	6.6	4.1	332	8	5.6	2.9	225	3	8.1	5.1	240	11	6.5	5.9	263				
3.6 "	19	6.7	4.5	349	19	7.6	6.5	318	12	6.4	5.3	330	5	5.7	4.2	251	2	7.5	5.1	198	4	3.2	2.2	253				
4.5 "	12	7.5	4.4	325	12	6.7	6.3	302	1	6.2	6.2	335	2	4.1	2.8	289	1	6.2	6.2	085	3	6.0	4.1	271				
5.4 "	10	9.0	4.9	297	8	9.5	8.3	296					2	3.9	2.3	275					7	8.0	4.9	318				
6.0 "	6	8.1	5.4	251	7	7.4	7.2	312					2	3.9	2.5	315					2	9.0	3.0	327				
7.2 "	2	5.9	5.9	257	6	9.3	9.1	304					1	6.2	6.2	005					2	11.1	5.1	325				
9.0 "	2	8.2	7.9	266	5	7.5	7.5	269												1	5.7	5.7	260					

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 km. above mean sea level

June 1959 (Jyaistha 11,—Asadha 9, 1881 Saka)

Station	IMPHAL				JABALPUR								JAGDALPUR											
	2330				0530				1730				2330				0530				1730*			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.1	0.7	238	30	1.9	1.2	214	30	2.4	0.8	256	30	2.1	1.4	204	30	0.4	0.4	246	30	1.7	0.5	256
0.15 a.g.	28	2.7	1.0	238	30	6.4	4.6	226	30	5.0	1.9	255	30	6.9	4.5	215	28	5.9	4.9	216	27	6.1	2.5	211
0.3 a.m. s.l.																								
0.6 "					30	6.9	5.3	237	30	5.1	2.0	260	30	7.3	4.9	221	28	2.9	2.1	210	27	4.3	1.6	209
0.9 "	28	2.3	0.8	244	30	8.3	6.0	268	30	5.3	2.8	281	30	7.8	5.2	243	28	7.2	5.9	233	27	6.0	3.1	226
1.5 "	28	4.2	2.8	249	27	7.5	6.2	282	30	5.6	3.3	291	29	6.3	4.1	276	24	7.4	5.8	252	21	5.1	2.5	272
2.1 "	20	5.4	3.7	234	27	5.5	4.2	295	29	6.1	4.4	304	28	5.5	3.1	309	20	4.9	2.5	295	15	4.7	1.9	294
3.0 "	10	5.4	4.0	251	25	4.5	2.5	333	24	5.6	3.8	343	27	5.1	2.0	353	16	4.8	0.5	024	11	5.2	1.0	069
3.6 "	7	4.1	2.4	227	22	4.6	2.3	010	19	5.5	3.5	350	21	4.5	2.5	037	10	4.6	1.7	035	6	6.5	2.4	086
4.5 "	3	8.2	4.4	119	17	4.6	2.6	027	14	5.0	3.9	347	3	2.7	2.3	059	1	4.6	4.6	015	2	6.9	6.9	084
5.4 "	3	5.5	1.7	079	13	4.5	1.5	037	12	4.9	2.8	323									1	7.7	7.7	110
6.0 "	3	2.9	0.9	360	12	5.4	1.3	045	9	4.3	2.0	318												
7.2 "	1	2.6	2.6	285	8	4.1	2.0	062	9	3.2	1.2	117												
9.0 "					2	4.1	3.7	341	1	4.1	4.1	219												

Station	JAGDALPUR				JAIPUR								JAMSHEDPUR											
	2330				0530				1730				2330				0530				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	29	1.0	0.6	200	30	2.2	1.4	273	30	2.5	1.4	255	30	2.2	1.2	240	30	1.7	0.5	220	15	1.9	1.4	245
0.15 a.g.	28	6.4	4.2	199	30	7.1	5.3	268	30	4.9	2.4	264	27	8.7	6.4	246	29	4.3	1.8	219	14	3.0	2.5	237
0.3 a.m.s.l.	28	3.9	2.6	189													29	4.4	2.3	216	14	3.0	2.7	245
0.6 "	28	7.4	4.5	214	30	9.0	7.2	271	30	4.9	2.6	263	27	9.6	7.1	252	29	7.7	4.8	240	14	4.0	3.5	259
0.9 "	27	5.8	3.1	259	30	11.0	9.7	276	30	5.1	3.4	278	27	9.9	7.3	261	27	8.2	7.2	258	14	6.1	5.1	271
1.5 "	27	5.5	2.1	245	30	8.4	7.1	281	30	5.7	4.0	295	26	8.0	5.9	273	26	6.1	4.8	271	14	8.4	7.6	293
2.1 "	22	5.8	1.2	316	23	5.6	3.3	291	25	6.0	4.0	296	20	7.1	4.8	278	23	4.4	3.5	236	12	7.6	6.8	297
3.0 "	7	5.1	0.2	333	15	5.5	2.7	317	23	6.0	4.4	303	13	5.3	3.7	315	21	5.0	3.8	342	7	7.1	5.5	233
3.6 "					10	5.7	3.3	022	22	6.4	4.5	313	8	8.6	6.0	312	17	4.8	4.1	348				
4.5 "					3	6.8	3.8	011	17	7.1	4.9	303	1	8.2	8.2	005	13	4.9	3.4	312				
5.4 "					2	3.6	3.3	021	15	8.6	6.0	297					8	4.9	2.2	224				
6.0 "					1	4.6	4.6	045	11	9.0	6.6	312					3	2.2	1.6	128				
7.2 "									5	8.1	5.9	306					2	3.3	3.0	150				
9.0 "									3	10.8	7.2	339					1	2.6	2.6	170				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km above mean sea level

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	JAMSHEDPUR				JHARSUGUDA								JODHPUR											
	1730				0530				1730				2330				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.2	0.3	236	30	1.7	0.9	160	30	2.6	1.1	228	30	2.6	1.2	150	29	4.6	4.4	237	30	4.6	3.4	249
0.15 a.g. . .	26	4.2	0.3	162	27	4.4	2.8	189	29	4.7	1.7	221	28	7.5	4.3	186	29	5.6	5.2	235	30	6.6	5.4	224
0.3 a.m.s.l. .	26	4.2	0.4	162	27	3.9	2.4	188	29	4.8	2.1	224	28	6.1	3.5	178	29	5.2	4.9	237	30	6.0	2.3	231
0.6 „ . . .	26	5.3	2.0	168	27	6.3	4.3	247	29	5.0	1.7	249	28	7.9	4.4	201	29	7.5	7.2	235	30	6.6	6.2	232
0.9 „ . . .	26	5.4	1.3	180	27	7.7	5.7	258	29	5.2	1.7	282	28	7.4	3.8	211	29	9.2	8.6	232	30	6.7	6.1	236
1.5 „ . . .	24	5.0	1.5	283	27	7.7	6.3	271	29	6.3	3.0	302	28	6.4	3.2	256	29	6.2	4.7	230	30	5.9	4.2	240
2.1 „ . . .	24	5.0	2.2	318	26	6.8	5.9	297	24	7.3	3.9	320	25	5.5	3.6	306	28	5.5	1.8	231	27	5.3	1.9	205
3.0 „ . . .	20	5.1	3.2	335	22	6.1	5.1	342	19	8.4	4.3	347	20	5.5	3.2	349	27	6.1	1.9	047	27	6.4	2.2	124
3.6 „ . . .	19	5.9	3.9	338	12	5.3	4.4	076	13	6.5	3.8	019	10	4.8	1.2	341	26	6.4	2.9	031	25	7.4	3.7	127
4.5 „ . . .	13	5.6	3.9	322	2	3.3	2.4	308	7	5.3	3.5	017					25	6.3	3.9	025	22	6.5	4.0	115
5.4 „ . . .	11	6.2	4.6	301					1	3.6	3.6	305					22	5.5	2.8	360	21	5.9	1.9	103
6.0 „ . . .	7	5.7	4.2	288													22	6.2	1.2	332	17	6.5	0.5	267
7.2 „ . . .	5	4.7	4.0	265													21	7.5	1.2	317	10	6.4	2.0	228
9.0 „ . . .	2	3.1	3.1	117													19	6.6	2.2	240	4	9.8	5.0	255

Station	JOHDPUR				MADRAS																			
	1730*				2330				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	5.0	3.7	214	30	3.1	2.9	209	30	2.8	2.1	236	30	4.1	3.1	261	30	3.5	1.9	178	30	3.4	2.6	200
0.15 a.g. . .	30	5.3	4.0	217	30	8.6	7.2	220	30	4.5	3.7	250	30	6.4	4.9	265	30	4.3	2.1	192	30	7.7	6.2	206
0.3 a.m.s.l. .	30	5.3	3.6	220	30	6.9	5.5	221	30	6.2	5.2	250	30	6.9	5.6	262	30	5.5	2.2	181	30	8.7	6.5	216
0.6 „ . . .	30	5.8	4.3	228	30	9.2	7.8	228	30	8.0	7.3	262	30	6.9	5.8	268	30	6.0	3.4	210	30	9.5	6.7	240
0.9 „ . . .	30	6.4	5.0	231	30	8.9	7.2	232	30	9.3	8.6	270	29	8.3	7.7	274	30	6.6	4.8	269	30	9.6	7.4	256
1.5 „ . . .	30	6.6	5.1	238	27	6.6	5.1	245	30	10.2	9.1	278	29	9.8	8.8	280	30	7.9	6.4	275	30	9.7	8.2	273
2.1 „ . . .	29	5.7	2.9	240	22	4.5	1.5	230	30	10.3	7.8	285	29	10.1	7.5	282	30	9.7	7.2	278	25	8.7	6.4	281
3.0 „ . . .	29	5.5	1.4	076	20	5.1	2.0	107	30	9.8	5.6	286	25	10.4	6.6	278	30	11.2	7.4	281	17	7.3	2.5	316
3.6 „ . . .	29	5.6	0.9	078	4	5.8	3.5	089	30	9.7	4.5	280	20	8.9	5.0	264	30	11.0	6.1	278	6	6.0	4.8	078
4.5 „ . . .	28	5.5	0.9	045	1	4.6	4.6	124	30	9.5	3.4	262	18	9.2	3.6	237	30	10.5	3.5	267				
5.4 „ . . .	27	5.7	2.1	338					30	8.9	2.1	237	14	9.5	4.6	228	28	9.8	2.2	238				
6.0 „ . . .	26	6.2	2.2	328					30	8.2	1.6	194	13	8.9	3.7	230	28	9.4	1.8	218				
7.2 „ . . .	26	6.9	3.9	301					30	7.7	1.7	178	10	8.4	5.1	220	28	8.7	1.4	165				
9.0 „ . . .	18	7.1	3.5	250					26	7.4	4.2	080	1	2.6	2.6	195	28	7.3	2.8	083				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June 1959 (Jyaistha 11, —Asadha 9, 1881 Saka)

Station	MINICOY												MOHANBARI															
	0530				1730				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	5.3	4.7	271	30	5.6	5.1	279	30	5.3	4.8	273	30	0.9	0.7	050	15	1.5	0.3	086	30	1.2	0.9	054				
0.15 a.g. . .	29	8.0	7.3	270	29	8.4	7.6	270	29	7.8	7.1	268	19	4.5	4.0	054	12	2.7	0.6	175	29	3.5	2.4	066				
0.3 a.m.s.l. .	29	9.1	8.4	270	27	9.9	9.0	269	29	8.3	7.7	272	19	4.6	4.1	057	12	2.8	0.5	167	29	3.8	2.7	069				
0.6 „ . . .	29	11.0	10.2	272	27	11.7	10.7	274	29	9.7	9.2	276	19	4.4	3.5	074	11	2.9	0.5	213	29	3.9	2.6	087				
0.9 „ . . .	29	12.1	11.4	277	27	12.6	11.4	280	29	10.9	10.2	280	18	4.3	1.6	098	10	2.5	0.5	067	25	3.1	1.0	152				
1.5 „ . . .	27	11.6	11.0	279	27	12.7	11.9	280	29	11.3	10.9	280	14	4.7	1.9	183	8	3.0	1.0	110	21	4.7	3.1	222				
2.1 „ . . .	25	10.9	10.1	280	24	13.4	12.4	280	29	11.9	10.7	278	11	2.6	1.5	192	5	2.7	1.3	197	18	4.8	3.8	213				
3.0 „ . . .	15	9.4	8.7	280	21	12.0	11.2	283	16	7.2	6.3	275	7	2.9	1.9	187	3	2.2	1.7	153	13	4.0	2.7	209				
3.6 „ . . .	4	7.4	6.5	285	11	9.7	9.0	285	5	7.1	6.1	286	3	3.1	1.1	304					10	3.8	1.7	245				
4.5 „ . . .					3	6.5	5.7	265	1	4.6	4.6	250	2	6.4	5.8	245					6	8.2	1.5	277				
5.4 „ . . .					1	3.6	3.6	065					1	2.6	2.6	255					3	7.7	4.0	347				
6.0 „ . . .																					3	11.3	6.5	354				
7.2 „ . . .																					2	7.7	4.3	276				
9.0 „ . . .																					2	11.3	11.3	29				

Station	MOHANBARI				NAGPUR												NANPARA											
	2330				0530*				1130				1730*				2330				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.2	0.4	041	30	1.7	1.4	282	30	3.3	3.0	273	29	3.4	1.6	289	30	2.8	1.1	208	30	2.2	1.9	095				
0.15 a.g. . .	26	4.6	3.0	053	30	6.8	4.7	268	30	5.1	4.5	275	29	6.0	3.5	283	27	5.7	2.0	206	29	7.7	5.5	112				
0.3 a.m.s.l. .	26	4.8	3.0	055																	29	8.0	5.8	116				
0.6 „ . . .	25	4.8	3.1	081	30	6.5	4.9	273	30	4.5	3.7	283	29	5.0	3.1	274	27	5.6	1.8	219	29	8.8	5.6	122				
0.9 „ . . .	25	3.7	2.3	093	30	6.2	4.4	279	30	4.6	3.8	289	29	4.1	2.9	271	27	4.1	1.4	243	28	6.7	2.4	150				
1.5 „ . . .	22	4.5	3.4	210	30	5.8	3.5	295	28	4.6	2.8	298	29	4.4	2.7	279	27	4.3	1.7	282	26	6.3	2.8	255				
2.1 „ . . .	18	4.7	3.7	217	29	4.6	1.7	326	25	4.5	1.5	296	28	4.9	2.3	305	26	4.3	1.3	309	19	7.9	6.8	285				
3.0 „ . . .	14	3.9	2.5	236	29	5.3	2.2	030	23	5.4	1.0	059	28	5.3	1.3	001	21	4.8	1.0	037	15	9.3	8.6	305				
3.6 „ . . .	4	3.2	2.6	273	29	5.9	2.9	023	22	5.1	1.9	075	27	4.8	1.2	018	14	4.1	0.8	062	9	9.3	7.8	320				
4.5 „ . . .	3	3.1	2.1	190	29	5.4	2.2	053	15	4.8	1.4	073	27	4.6	0.7	048	8	3.3	0.9	096	5	8.5	6.7	334				
5.4 „ . . .	3	3.8	1.6	166	27	4.8	2.2	036	6	4.0	1.1	110	26	4.3	0.6	329	2	1.0	1.0	148	4	4.7	4.2	035				
6.0 „ . . .	1	3.1	3.1	080	27	4.6	2.1	044	6	3.5	1.6	111	26	3.7	1.2	346	1	3.1	3.1	055	2	6.4	4.1	353				
7.2 „ . . .	1	8.2	8.2	295	26	4.7	2.8	068	4	3.3	2.1	121	26	3.5	1.2	037					2	8.5	5.8	010				
9.0 „ . . .					22	4.5	2.8	078	1	5.1	5.1	115	23	5.3	4.0	087												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	NANPARA				NEW DELHI												POONA											
	1730				0530*				1130				1730*				2330				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.7	0.8	128	30	1.8	0.6	248	30	5.3	3.2	232	30	2.5	0.9	328	30	3.3	1.6	214	30	1.9	1.7	258				
0.15 a.g. . .	30	4.1	1.0	112	30	7.9	2.4	246	30	5.9	3.8	305	30	6.1	2.4	339	30	7.1	5.8	222	30	5.6	5.3	263				
0.3 a.m.s.l. .	30	4.2	1.1	117	30	6.7	2.4	250	30	5.9	3.8	304	30	5.9	2.1	338	30	5.9	2.6	217								
0.6 ,, . . .	30	4.9	1.3	125	30	7.9	3.3	259	30	6.2	3.8	306	30	5.8	2.7	325	30	8.1	2.9	246	30	3.1	3.0	258				
0.9 ,, . . .	30	4.4	0.3	340	30	8.0	5.4	273	30	6.4	4.4	305	30	5.9	3.2	318	29	7.5	3.1	257	30	7.2	6.6	267				
1.5 ,, . . .	29	5.4	3.1	287	30	7.7	6.3	290	29	6.7	4.8	311	30	6.7	4.8	310	27	5.8	4.4	284	27	8.1	6.4	268				
2.1 ,, . . .	28	7.6	6.5	293	30	7.2	6.0	303	29	7.6	5.7	314	30	7.6	5.6	302	25	6.5	5.2	303	22	4.8	1.2	289				
3.0 ,, . . .	26	10.7	8.6	302	30	7.9	6.3	319	24	8.9	6.4	311	30	8.5	6.5	303	22	8.0	6.2	310	17	4.0	2.2	063				
3.6 ,, . . .	19	10.1	9.6	302	30	7.9	6.7	324	20	8.7	6.1	318	30	8.9	7.4	308	3	5.7	3.5	008	14	5.3	3.3	072				
4.5 ,, . . .	12	9.2	9.0	310	30	8.7	7.3	328	17	9.0	5.8	314	30	9.6	7.8	310					4	3.4	2.5	130				
5.4 ,, . . .	7	8.0	6.4	312	30	8.2	6.3	320	12	6.7	5.3	300	30	9.7	7.2	304												
6.0 ,, . . .	4	10.0	8.5	302	30	8.2	5.7	309	11	5.9	4.9	302	30	9.1	6.5	307												
7.2 ,, . . .	1	8.7	8.7	025	30	9.7	6.0	290	9	7.7	6.5	279	30	10.7	7.8	293												
9.0 ,, . . .					29	11.2	8.0	285	4	8.2	6.9	297	28	10.5	7.7	287												

Station	POONA				PORT BLAIR																							
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.4	2.9	257	30	2.3	2.2	268	30	3.5	3.3	224	30	4.7	4.0	225	30	4.4	3.7	236	30	3.1	2.6	225				
0.15 a.g. . .	29	6.6	5.8	259	29	6.3	6.0	263	30	7.7	6.9	223	27	6.1	4.9	219	28	7.5	6.2	224	29	4.3	3.4	218				
0.3 a.m.s.l. .									30	7.8	6.9	225	27	6.5	5.5	218	28	7.7	6.4	227	29	4.3	3.6	219				
0.6 ,, . . .	29	5.0	4.2	260	29	3.7	3.4	268	30	9.2	7.8	226	27	6.5	5.8	219	28	9.3	8.1	229	29	4.6	3.7	223				
0.9 ,, . . .	29	8.0	6.3	262	29	7.5	7.2	263	30	9.7	8.6	230	26	7.9	6.7	220	28	9.9	8.4	232	27	4.5	3.5	228				
1.5 ,, . . .	27	8.7	6.9	267	27	8.5	6.8	266	29	9.9	7.7	233	21	10.0	8.1	223	27	9.6	7.6	235	24	4.3	3.1	226				
2.1 ,, . . .	26	7.2	4.0	268	23	4.5	0.5	026	29	10.6	8.1	238	16	10.9	8.4	219	27	9.9	7.4	231	19	4.0	2.6	219				
3.0 ,, . . .	17	6.1	1.3	030	21	4.3	3.0	078	29	10.6	7.2	238	11	10.6	7.4	205	27	10.2	6.7	232	14	3.5	1.7	177				
3.6 ,, . . .	10	5.3	3.6	020	19	4.6	3.4	059	27	9.8	5.9	239	7	9.1	6.4	165	27	9.3	5.3	230	9	3.2	1.3	143				
4.5 ,, . . .	8	4.1	1.1	002	8	4.3	2.2	050	27	9.8	5.1	234	5	8.4	5.7	176	26	8.5	3.9	233	5	3.8	3.7	092				
5.4 ,, . . .	7	3.8	1.3	325	3	6.3	5.4	075	27	9.4	2.9	217	4	6.9	5.3	173	25	8.6	2.4	194	1	3.6	3.6	110				
6.0 ,, . . .	7	2.9	2.2	055					26	8.8	2.7	205	4	6.9	5.1	174	25	8.6	2.4	191	1	3.6	3.6	095				
7.2 ,, . . .	4	4.4	2.8	077					24	7.1	2.7	183	1	6.7	6.7	125	23	5.1	2.0	217								
9.0 ,, . . .	3	7.7	7.1	105					19	6.7	4.9	097					19	7.3	4.2	117								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	RAIPUR												RAXAUL															
	0530				1730				2330				0530				1130				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.0	2.3	215	30	2.8	1.5	272	30	3.5	2.0	217	30	0.6	0.6	092	15	1.7	1.6	093	30	1.4	1.3	092				
0.15 a.g. . .	29	8.1	6.7	233	24	5.5	4.1	271	25	7.7	4.6	210	27	6.2	6.0	092	14	4.6	3.8	109	30	5.0	4.2	088				
0.3 a.m.s.l. . .													27	6.8	6.6	100	14	4.6	3.9	112	30	5.3	4.4	092				
0.6 „ . . .	29	9.2	7.6	246	24	5.9	4.4	268	25	8.0	4.8	225	26	8.0	6.9	110	14	4.2	2.6	109	30	5.0	3.5	103				
0.9 „ . . .	29	9.7	7.9	253	24	5.0	3.9	280	25	7.4	4.4	234	25	7.7	4.8	119	13	4.6	1.0	106	30	4.8	2.8	116				
1.5 „ . . .	29	7.8	5.7	281	23	5.1	3.3	255	24	6.5	3.3	265	22	6.7	0.5	220	9	8.1	2.0	270	28	6.9	1.3	231				
2.1 „ . . .	25	6.7	4.7	292	21	5.5	2.8	319	24	5.9	2.6	294	17	7.2	2.3	286	3	3.4	2.4	142	28	8.8	1.6	261				
3.0 „ . . .	15	6.6	4.4	300	12	6.3	3.2	350	17	5.4	2.5	349	14	6.8	3.9	298	2	3.3	3.1	260	26	10.5	7.9	282				
3.6 „ . . .	4	7.2	5.3	307	8	7.2	5.2	007	13	4.7	2.0	011	13	7.5	4.3	307					26	8.5	7.4	284				
4.5 „ . . .	1	3.1	3.1	305	5	5.0	4.5	021	1	6.7	6.7	350	8	7.1	5.1	303					22	7.6	6.2	282				
5.4 „ . . .					2	4.1	3.9	020					3	5.7	4.2	038					21	7.6	6.1	287				
6.0 „ . . .													2	6.7	6.5	054					19	8.8	6.6	294				
7.2 „ . . .																					16	10.5	7.9	289				
9.0 „ . . .																					11	11.8	7.3	272				

Station	SANTA CRUZ												TEZPUR															
	0530*				1130				1730*				2330				0530				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	29	2.1	1.1	255	30	3.1	2.4	241	29	4.7	3.8	262	30	2.9	2.2	241	30	0.9	0.6	091	15	1.4	0.8	099				
0.15 a.g. . .	29	5.3	3.4	258	28	5.3	3.9	237	29	7.2	5.7	265	28	5.1	4.0	235	25	4.9	2.5	083	13	3.7	2.1	114				
0.3 a.m.s.l. . .	29	5.3	3.9	253	27	5.5	4.4	248	29	7.1	5.9	262	27	5.5	4.6	240	25	5.0	2.6	094	13	3.5	1.9	110				
0.6 „ . . .	29	5.7	4.7	256	26	6.1	5.0	252	29	6.7	5.6	261	27	6.3	5.2	250	23	4.3	1.7	124	11	2.9	1.8	158				
0.9 „ . . .	29	6.3	5.3	255	24	5.5	4.0	264	29	7.3	2.4	249	26	6.5	5.6	246	20	4.7	1.9	138	10	4.0	1.7	194				
1.5 „ . . .	29	6.5	4.5	252	14	6.2	3.6	253	29	6.8	4.7	240	20	5.3	3.3	237	17	4.6	1.7	212	9	5.8	1.8	219				
2.1 „ . . .	29	6.0	2.7	241	7	5.7	0.6	018	29	5.7	2.2	258	19	3.9	0.7	241	13	5.3	3.7	233	6	8.4	6.1	236				
3.0 „ . . .	29	5.8	0.7	002	3	8.2	5.1	007	29	6.0	1.3	324	17	4.8	3.1	043	9	4.2	3.7	237	3	6.0	3.1	217				
3.6 „ . . .	29	6.8	1.2	012	3	8.9	6.3	028	29	7.3	1.4	311	11	4.9	3.3	063	6	4.3	3.1	226								
4.5 „ . . .	29	6.8	2.9	068	1	11.3	11.3	095	29	6.6	1.1	119	4	5.0	1.4	116	5	3.8	2.6	235								
5.4 „ . . .	29	5.6	2.2	085					29	6.4	2.7	104	1	5.1	5.1	310	4	5.5	4.4	226								
6.0 „ . . .	29	6.0	3.2	078					29	5.7	2.4	109					2	5.9	4.9	119								
7.2 „ . . .	29	6.3	4.7	093					29	5.6	3.7	094					1	2.1	2.1	244								
9.0 „ . . .	23	7.8	6.5	098					28	7.6	6.2	094																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9 km. above mean sea level

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Station	TEZPUR								TIRUCHIRAPALLI								TRIVANDRUM											
	1730				2330				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	0.8	0.4	077	30	1.0	0.5	089	30	5.5	5.5	270	30	7.7	7.2	270	30	6.3	6.0	270	30	3.1	2.7	310				
0.15 a. g.	27	3.6	1.1	104	26	4.4	2.4	089	30	9.1	9.0	270	27	7.4	6.5	268	29	9.1	8.4	270	29	4.5	4.0	308				
0.3 a.m.s.l.	27	4.0	1.2	118	26	4.3	2.0	103	30	9.9	9.8	270	27	7.7	6.9	268	29	9.6	8.9	269	29	6.7	6.1	308				
0.6 "	27	5.0	1.1	163	26	4.2	2.0	154	30	13.1	12.8	271	27	8.4	8.0	269	29	11.1	10.5	266	29	9.3	8.5	298				
0.9 "	26	5.3	2.9	212	26	5.0	2.8	185	30	13.3	13.0	272	27	8.5	8.1	270	29	12.0	11.4	264	29	11.4	11.0	290				
1.5 "	24	6.8	5.0	226	21	5.5	3.7	225	30	11.4	10.6	272	27	8.7	7.8	269	28	11.6	10.6	270	29	12.2	11.7	287				
2.1 "	20	6.5	4.9	241	19	5.4	4.1	231	28	11.3	8.6	278	26	9.5	7.8	273	25	11.0	8.7	277	29	11.8	10.9	286				
3.0 "	16	7.0	5.2	240	11	4.4	4.3	235	21	8.7	4.1	282	21	10.6	7.0	282	19	9.7	4.7	294	29	11.1	9.4	285				
3.6 "	12	6.7	5.1	242	7	4.5	3.8	218	13	7.8	2.8	295	15	9.1	3.3	296	9	8.2	1.1	017	29	10.5	8.7	283				
4.5 "	11	5.9	4.1	252	2	2.1	1.3	144	8	8.2	0.3	225	10	7.7	2.7	249	2	5.7	4.2	090	29	10.0	7.6	278				
5.4 "	10	6.8	4.4	252	2	3.1	1.8	256	6	8.6	4	133	9	8.2	2.0	141					29	9.1	5.7	269				
6.0 "	9	7.1	3.3	254	2	2.8	1.8	256	4	10.3	3.7	135	8	8.8	2.3	113					29	7.2	3.8	266				
7.2 "	5	5.8	2.7	308	1	1.0	1.0	315					2	8.2	7.9	111					29	6.5	0.6	160				
9.0 "	1	10.8	10.8	260									1	9.8	9.8	090					27	7.5	4.2	060				

Station	TRIVANDRUM												UDAIPUR															
	1130				1730*				2330				0530				1730				2330*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	30	3.1	2.6	295	30	4.6	4.3	300	30	2.5	2.3	326	30	1.5	1.1	238	30	2.0	1.5	240	30	1.6	1.4	223				
0.15 a. g.	25	6.1	5.3	292	28	5.6	5.3	300	26	7.2	5.5	318	30	4.5	3.7	243	28	5.1	4.0	250	29	4.5	3.8	236				
0.3 a.m.s.l.	25	7.2	6.2	290	28	8.0	7.6	300	26	8.1	6.0	312																
0.6 "	23	9.5	8.7	289	28	10.7	10.1	295	26	10.3	7.9	297																
0.9 "	17	11.1	10.2	290	28	11.9	10.5	290	19	11.4	8.9	288	30	5.3	4.4	251	28	5.9	4.8	254	29	5.5	4.4	240				
1.5 "	6	11.5	10.9	283	28	12.6	10.9	290	18	11.5	9.6	285	28	4.8	3.0	259	28	4.7	3.5	257	29	7.1	5.1	252				
2.1 "					28	11.9	10.7	288	15	11.6	8.5	287	25	4.9	1.9	190	28	4.5	2.3	254	29	5.1	1.6	264				
3.0 "													16	4.9	1.3	154	26	4.6	0.4	275	26	5.6	2.3	084				
3.6 "					28	11.8	10.9	283	5	4.4	2.0	320																
4.5 "					28	11.2	9.8	276	4	4.8	1.3	377	11	5.6	2.1	161	24	5.8	0.6	055	23	5.9	2.6	079				
5.4 "					28	10.1	7.8	271	2	2.1	1.1	057	1	3.1	3.1	220	22	5.8	0.9	343	15	5.4	3.0	073				
6.0 "					28	9.1	5.6	267	2	5.9	3.4	107					19	5.6	3.7	339	6	5.1	4.6	051				
7.2 "					28	7.1	3.6	262	2	6.4	4.4	114					17	5.7	3.7	333	2	9.3	8.7	061				
9.0 "					28	5.9	0.7	083	1	12.4	12.4	120					17	6.5	2.3	003								
					27	8.4	6.5	070									10	5.1	2.0	038								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9·0 Km. above mean sea level

June 1959 (Jyaishta 11—Asadha 9, 1881 Saka)

Station	VENGURLA												VERAVAL															
	0530				1730				2330				0530*				1130				1730*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1·0	0·7	255	30	2·1	1·7	260	30	1·2	0·5	236	30	6·1	5·3	256	29	6·4	5·3	245	30	6·6	5·8	255				
0·15 a. g. . .	24	4·3	2·2	259	26	6·0	5·1	266	25	4·3	2·5	282	30	8·6	7·2	248	29	6·5	5·9	241	30	10·4	9·1	249				
0·3 a.m. s.l. .	24	5·0	3·2	260	26	6·8	6·0	266	25	5·0	3·9	278	30	8·3	6·8	246	29	7·1	6·3	245	30	9·7	8·4	248				
0·6 „ . . .	23	5·8	4·6	271	25	7·4	6·5	270	25	6·5	5·5	275	30	8·5	6·6	244	28	7·4	6·2	247	30	9·2	8·0	249				
0·9 „ . . .	13	5·9	5·0	287	22	8·4	7·3	282	20	7·1	6·1	281	30	8·5	6·6	245	22	5·5	4·4	256	30	9·3	7·5	249				
1·5 „ . . .	6	4·0	2·6	271	13	5·7	3·4	308	16	5·9	4·9	289	30	7·9	5·1	236	19	5·1	1·8	255	30	8·2	5·1	245				
2·1 „ . . .	5	3·6	0·7	128	10	4·9	1·6	310	10	4·3	1·0	274	30	6·9	2·3	266	16	5·8	1·3	054	30	7·9	2·7	264				
3·0 „ . . .	4	4·4	3·6	102	7	4·6	2·9	120	8	4·4	1·1	090	29	6·6	0·6	353	15	6·6	2·5	062	30	6·6	1·2	290				
3·6 „ . . .					6	4·0	3·3	097	1	6·7	6·7	105	29	6·9	1·4	016	10	5·1	1·6	080	30	7·1	1·0	360				
4·5 „ . . .					6	5·0	4·0	101					29	6·5	2·8	030	8	5·8	1·2	060	30	7·7	1·3	091				
5·4 „ . . .					4	4·3	4·0	097					29	6·0	2·7	042	8	6·9	2·8	067	30	7·2	1·0	086				
6·0 „ . . .					4	4·6	4·1	092					29	6·3	3·0	057	8	7·1	3·2	090	30	6·0	0·9	144				
7·2 „ . . .					1	7·2	7·2	085					29	6·0	4·5	073	5	4·9	3·5	113	29	5·8	3·4	100				
9·0 „ . . .					1	9·8	9·8	100					27	7·3	5·9	095	2	8·2	8·1	093	29	7·5	6·0	095				

Station	VERAVAL				VISAKHAPATNAM											
	2330				0530				1730				2330			
Time in I.S.T.																
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	6·3	5·3	245	30	1·3	0·9	228	30	5·1	3·5	219	30	2·6	1·9	228
0·15 a. g. . .	29	6·8	5·8	248	27	3·7	3·3	242	28	6·2	4·0	213	28	3·4	2·3	220
0·3 a.m. s.l. .	29	7·9	7·3	251	27	5·6	4·8	250	28	6·4	4·1	217	28	4·0	2·8	227
0·6 „ . . .	29	8·4	7·6	252	27	6·6	5·8	254	28	5·8	4·0	233	28	4·7	3·3	237
0·9 „ . . .	26	8·0	7·0	254	26	6·9	5·6	264	26	5·1	3·0	242	27	4·9	3·2	246
1·5 „ . . .	23	6·9	3·5	243	22	5·7	4·1	275	23	5·5	2·8	297	25	4·9	2·0	270
2·1 „ . . .	21	6·2	1·0	311	20	3·9	2·4	298	23	4·6	2·7	346	21	4·0	0·7	300
3·0 „ . . .	19	6·0	2·7	061	19	4·0	1·5	329	21	4·9	1·9	001	18	4·3	0·9	340
3·6 „ . . .	16	6·2	3·4	068	15	4·5	1·9	033	19	4·5	0·5	359	14	3·8	0·8	263
4·5 „ . . .	9	6·6	4·9	082	11	3·7	1·5	036	13	4·5	1·1	249	8	4·3	3·1	271
5·4 „ . . .	1	5·7	5·7	055	8	4·1	0·9	068	9	4·9	2·1	278	3	3·6	2·4	299
6·0 „ . . .	1	6·2	6·2	005	5	3·9	1·3	038	7	4·9	2·1	273	1	2·1	2·1	200
7·2 „ . . .	1	9·3	9·3	065	3	4·5	3·8	080	4	5·6	1·0	267				
9·0 „ . . .					1	11·8	11·8	110	2	8·7	7·9	113				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km above mean sea level

June 1959 (Jyaishta 11—Asadha 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
	AMBALA					BHUBANESHWAR					GAUHATI 1130 hrs.					GWALIOR					MADRAS 1730 hrs.*			
	1730 hrs.					0530 hrs.				10.5	1	11.8	11.8	225		0530 hrs.				10.5	28	8.2	5.6	090
10.5	3	22.5	20.4	263	10.5	2	10.0	10.0	102	12.0	1	11.8	11.8	240	10.5	1	8.7	8.7	235	12.0	26	12.7	11.3	085
12.0	3	26.4	24.6	264	12.0	1	11.3	11.3	110	14.1	1	8.7	8.7	260	12.0	1	11.8	11.8	255	14.1	18	23.2	19.9	085
14.1	1	8.7	8.7	320	14.1	1	16.0	16.0	075	16.2	1	7.7	7.7	335	14.1	1	9.8	9.8	265	16.2	9	34.1	33.4	087
16.2	1	14.4	14.4	330	16.2	BIKANER					1730 hrs.*					1730 hrs.				18.0	3	39.6	39.2	093
	AMRITSAR					1730 hrs.				10.5	19	9.5	9.0	277	10.5	4	7.9	7.3	260	21.0	1	32.9	32.9	100
	0530 hrs.*				10.5	1	6.2	6.2	255	12.0	14	10.1	6.8	284	12.0	3	9.3	8.6	234		MOHANBARI			
10.5	21	17.9	15.4	269	12.0	1	6.7	6.7	250	14.1	7	11.7	10.6	271	14.1	3	5.1	3.8	240		1730 hrs.			
12.0	10	19.1	17.7	266	14.1	1	6.7	6.7	250		GAYA				16.2	1	5.1	5.1	055	10.5	2	16.0	16.0	313
14.1	2	18.0	17.7	309	16.2	1	7.2	7.2	185		0530 hrs.				18.0	1	11.8	11.8	295		NAGPUR			
	17.30 hrs.*					DEHRA DUN				10.5	3	5.1	3.7	234		JABALPUR					0530 hrs.*			
10.5	16	15.5	13.6	271		0530 hrs.				12.0	2	8.2	6.0	150	10.5	1	6.2	6.2	340	10.5	19	7.1	6.1	098
12.0	10	16.1	13.9	265	10.5	1	1.5	1.5	350	14.1	2	15.7	15.5	039		JAIPUR				12.0	18	9.2	7.2	107
14.1	1	6.2	6.2	350		1730 hrs.				16.2	1	28.8	28.8	290		1730 hrs.				14.1	15	13.5	10.6	099
	ASANSOL				12.0	5	8.7	7.2	302	10.5	4	6.5	6.4	267	10.5	1	13.9	13.9	260	16.2	13	15.2	14.3	085
	1730 hrs.				14.1	4	6.4	4.4	311	12.0	3	8.6	8.1	239		JAMSHEDPUR				18.0	7	19.4	19.3	084
10.5	1	3.1	3.1	255	16.2	4	6.3	5.8	031	14.1	1	8.2	8.2	245	10.5	2	12.4	12.3	088	21.0	4	24.3	23.2	084
12.0	1	7.2	7.2	145	18.0	2	9.3	3.9	112		1730 hrs.				12.0	1	12.4	12.4	100	24.0	2	22.4	22.4	090
	BAMRAULI					DUM DUM					GOPALPUR					JODHPUR					1130 hrs.			
	0530 hrs.*				10.5	23	5.9	1.7	155	10.5	2	9.5	9.2	047	10.5	15	7.5	3.5	253	10.5	1	12.9	12.9	110
10.5	15	5.5	2.7	267	12.0	19	8.0	4.0	102		0530 hrs.				10.5	9	7.4	5.4	273	10.5	17	8.6	6.8	091
12.0	3	5.8	2.6	225	14.1	16	9.0	4.2	069	10.5	6	12.3	12.3	100	12.0	5	6.6	4.2	105	12.0	13	10.4	8.3	098
14.1	2	10.8	10.6	274	16.2	8	12.4	10.6	062	10.5	5	13.1	13.0	106	14.1	5	6.6	4.2	105	14.1	11	16.4	14.7	100
	1130 hrs.				18.0	5	14.4	14.3	079	12.0	5	19.9	19.7	098		1130 hrs.				16.2	10	15.5	15.0	091
10.5	2	6.7	6.3	342		1730 hrs.				14.1	4	24.6	24.5	092	10.5	1	7.2	7.2	100	18.0	2	21.9	11.8	090
12.0	1	5.1	5.1	330	10.5	23	6.7	2.3	140	16.2	4	26.4	7.3	094	12.0	1	2.1	2.1	242		NEW DELHI			
14.1	2	5.9	1.8	028	12.0	22	6.5	1.9	063	18.0	3	25.2	25.2	100		1730 hrs.*				10.5	28	11.0	8.1	277
16.2	2	10.8	10.3	005	14.1	14	8.1	5.1	073	21.0	1	25.2	25.2	100	10.5	13	7.4	2.1	243	10.5	28	11.0	8.1	277
	1730 hrs.*				16.2	7	16.6	12.7	065		GORAKHPUR				12.0	7	7.9	3.7	187	12.0	28	10.7	6.1	265
10.5	13	7.3	2.5	114	18.0	2	16.7	15.7	030		0530 hrs.				14.1	1	3.6	3.6	280	14.1	25	9.1	7.1	274
12.0	5	8.3	4.2	198		GANNAVARAM				10.5	1	6.7	6.7	350		MADRAS				16.2	20	7.7	4.2	288
	BAREILLY					1730 hrs.					1730 hrs.					0530 hrs.*				18.0	18	7.0	5.4	067
	0530 hrs.				10.5	2	12.6	12.5	096	10.5	6	6.7	2.4	313	10.5	25	9.9	8.6	085	21.0	8	14.4	14.1	064
10.5	2	7.7	6.7	309	12.0	1	12.9	12.9	105	12.0	3	6.0	4.4	013	12.0	23	13.6	12.0	086	24.0	4	16.2	16.1	063
12.0	2	9.8	9.6	310		GAUHATI				14.1	3	11.3	10.0	061	14.1	14	25.7	24.1	035	27.0	1	20.6	20.6	090
14.1	1	7.7	7.7	010		0530 hrs.*				16.2	2	8.5	8.5	069	16.2	9	34.1	32.5	088		1130 hrs.			
	1730 hrs.				10.5	19	9.9	6.5	270	18.0	2	13.6	13.6	081	18.0	4	32.1	31.9	089	10.5	3	7.4	7.1	237
10.5	2	6.9	6.6	317	12.0	15	12.3	9.6	254	21.0	1	25.2	25.2	070	21.0	1	12.9	12.9	085	12.0	3	8.4	5.3	241
12.0	1	6.7	6.7	331	14.1	6	11.8	6.8	267	24.0	1	28.3	28.3	090		1130 hrs.				14.0	1	6.2	6.2	050
	1730 hrs.				16.2	2	12.1	7.1	168	27.0	1	46.3	46.3	060	10.5	1	6.7	6.7	130					

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km above mean sea level

June, 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	NEW DELHI 1730 hrs.*					TEZPUR 1730 hrs.			
10.5	27	11.5	8.6	285					
12.0	26	10.7	8.7	262	10.5	1	14.4	14.4	300
14.1	25	9.3	5.0	278	12.0	1	19.0	19.0	315
16.2	20	5.4	2.0	057	14.1	1	6.7	6.7	355
18.0	14	9.4	8.8	095		TRIVANDRUM 0530 hrs.*			
21.0	5	9.4	9.0	089					
	POONA 1730 hrs.				10.5	23	12.7	9.9	070
					12.0	20	18.1	16.3	075
10.5	2	8.2	6.1	080	14.1	12	29.5	28.7	083
12.0	1	14.9	14.9	095	16.2	5	40.3	39.8	090
	PORT BLAIR 0530 hrs.*				18.0	3	24.3	23.0	076
10.5	16	8.5	6.6	081		1730 hrs.*			
12.0	9	10.2	9.5	104	10.5	27	12.2	10.3	075
14.1	8	21.3	20.5	104	12.0	24	19.5	18.4	077
16.2	5	29.8	29.7	097	14.1	17	33.0	32.6	080
18.0	3	42.0	41.8	094	16.2	8	35.0	34.0	090
	1730 hrs.*				18.0	4	26.4	25.7	080
10.5	16	9.1	5.8	077		UDAIPUR 1730 hrs.			
12.0	13	10.8	8.5	070	10.5	2	3.3	1.3	012
14.1	9	13.8	12.6	080	12.0	1	5.1	5.1	045
16.2	4	21.9	21.9	100	14.1	1	8.2	8.2	080
18.0	2	38.6	38.4	095	16.2	1	12.4	12.4	090
	RAXAUL 1730 hrs.				18.0	1	12.9	12.9	095
10.5	2	13.9	11.3	220		VERAVAL 0530 hrs.*			
12.0	1	14.4	14.4	280	10.5	27	10.0	8.5	102
14.1	1	4.6	4.6	350	12.0	25	12.5	11.1	105
16.2	1	6.7	6.7	070	14.1	22	16.2	15.0	095
	SANTA CRUZ 0530 hrs.*				16.2	16	21.5	21.1	088
10.5	16	11.4	10.4	095	18.0	7	18.9	18.7	087
12.0	13	14.6	13.6	105		1730 hrs.*			
14.1	5	19.3	18.8	110	10.5	29	9.8	8.2	097
16.2	3	30.0	29.1	089	12.0	29	12.0	8.4	099
	1730 hrs.*				14.1	25	16.0	13.2	080
10.5	26	10.2	9.5	091	16.2	19	22.9	22.7	088
12.0	18	15.6	15.0	091	18.0	11	23.5	15.7	094
14.1	12	22.9	22.2	100					
16.2	7	23.0	22.7	091					
18.0	4	28.0	27.9	087					

RADIOSONDE DATA
June 1959 (Jyaistha 11—Asadha, 9, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

Serial No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October, 1944 . . . . .	. . . . . 00 and 12	
2	Amritsar	Clock type	21st June, 1957 . . . . .	. . . . . 00 and 12	
3	Bombay	Clock type	7th September, 1954 . . . . .	. . . . . 00 and 12	
4	Calcutta	Clock type	13th December, 1946 . . . . .	. . . . . 00 and 12	. Fan type used from 13/12/46 to 30/11/47.
5	Gauhati	Clock type	22nd July, 1955 . . . . .	. . . . . 00 and 12	
6	Jodhpur	Clock type	17th April, 1946 . . . . .	. . . . . 00 and 12	
7	Madras	Fan type	29th June, 1946 . . . . .	. . . . . 00 and 12	
8	Nagpur	Fan type	1st October, 1946 . . . . .	. . . . . 00 and 12	
9	New Delhi	Clock type	3rd December, 1943 . . . . .	. . . . . 00 and 12	
10	Port Blair	Fan type	4th December, 1949 . . . . .	. . . . . 00 and 12	
11	Trivandrum	Fan type	1st July, 1947 . . . . .	. . . . . 00 and 12	
12	Veraval	Fan type	3rd October, 1944 . . . . .	. . . . . 00 and 12	
13	Visakhapatnam	Fan type	8th December, 1946 . . . . .	. . . . . 00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1002 mb.)						NAGPUR (967 mb.)						NEW DELHI (974 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	301.0	303	299	296.7	30	311	299.2	302	294	295.1	30	210	302.5	307	297	293.3
1000	30	036	..	..	..	..	30	—009	..	..	..	..	30	—020	..	..	..	..
900	30	967	296.6	300	294	289.5	30	942	298.9	302	296	289.2	30	920	302.9	307	297	288.1
850	30	1465	293.9	297	291	286.5	30	1444	296.0	298	293	287.3	30	1427	299.9	305	294	284.3
800	30	1988	290.9	293	289	284.5	30	1970	292.6	296	290	285.3	30	1979	296.0	300	291	282.2
700	30	3118	283.7	288	280	278.5	30	3106	284.8	288	282	278.9	30	3104	286.8	291	278	276.3
600	30	4387	276.2	282	273	271.3	30	4380	276.6	280	274	271.4	30	4382	277.2	281	273	267.2
500	30	5845	268.6	273	265	..	29	5833	268.8	272	264	..	30	5843	269.0	274	263	..
400	30	7569	258.2	263	249	..	29	7551	260.0	264	255	..	30	7578	269.2	265	257	..
300	28	9687	243.4	249	238	..	27	9709	246.8	252	242	..	28	9723	247.4	252	243	..
250	28	10962	233.6	239	225	..	27	11003	236.9	242	232	..	28	11019	238.0	243	234	..
200	25	12450	221.5	228	210	..	26	12523	226.4	232	221	..	27	12543	228.3	233	223	..
175	16	13332	216.8	222	212	..	24	13387	220.0	227	215	..	27	13414	220.7	227	216	..
150	15	14312	209.8	217	203	..	24	14375	212.5	221	204	..	26	14403	213.8	221	205	..
125	10	15382	202.6	211	195	..	23	15497	207.4	217	199	..	23	15529	206.8	213	201	..
100	9	16702	197.1	205	193	..	20	16832	202.3	211	191	..	21	16865	201.0	207	193	..
80							11	18216	203.8	208	196	..	16	18137	200.4	207	195	..
<hr/>																		
Standard Pressure Surface mbs.	PORT BLAIR (998 mb.)						TRIVANDRUM (1000 mb.)						VERAVAL (1001 mb.)					
	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point
Surface	29	079	299.3	301	297	297.7	29	064	298.1	300	297	296.2	29	008	302.0	303	301	298.9
1000	29	057	..	..	..	..	29	064	..	..	..	..	29	022	..	..	..	..
900	29	982	294.6	297	293	292.9	29	986	293.1	295	290	289.5	29	951	295.1	298	293	290.9
850	29	1477	291.8	295	290	289.8	29	1479	290.7	293	287	286.3	29	1447	293.3	298	290	284.7
800	29	1996	289.8	297	287	287.0	29	1996	288.0	290	286	283.7	29	1974	292.7	297	288	278.7
700	29	3123	283.3	285	280	279.7	29	3117	282.8	287	277	275.5	29	3107	285.9	289	282	273.8
600	29	4392	276.6	281	273	273.3	29	4382	275.8	281	270	266.3	29	4380	276.9	282	273	267.1
500	29	5848	268.1	274	263	..	29	5836	267.4	273	259	..	29	5840	269.1	273	263	..
400	28	7573	257.6	266	250	..	29	7553	257.0	263	249	..	29	7568	259.0	263	255	..
300	19	9680	243.3	251	239	..	27	9652	241.9	249	235	..	28	9697	245.0	249	238	..
250	14	10973	235.2	246	228	..	23	10925	231.8	241	225	..	28	10982	235.2	242	224	..
200	8	12467	224.6	234	217	..	20	12414	221.2	231	213	..	28	12488	224.6	231	211	..
175	8	13345	219.1	227	210	..	17	13200	214.7	225	207	..	26	13343	217.2	225	209	..
150	8	14326	212.4	219	202	..	16	14220	207.7	217	198	..	25	14319	210.7	220	201	..
125	5	15510	207.6	213	201	..	11	15341	204.7	211	198	..	23	15447	206.0	215	200	..
100	5	16824	202.4	206	198	..	6	16698	199.3	204	193	..	20	16775	201.3	211	190	..
80	5	18239	199.2	206	194	..							13	18114	204.0	212	194	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (997 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	301.2	303	298	297.5
1000	30	018	..	..	..	..
900	30	952	296.7	299	293	291.6
850	30	1451	294.3	299	291	288.6
800	30	1975	291.5	294	287	286.0
700	30	3107	284.3	288	281	279.4
600	30	4378	276.5	281	272	271.2
500	30	5838	268.6	273	263	..
400	29	7565	258.3	267	251	..
300	25	9693	245.2	253	238	..
250	24	10978	234.8	243	227	..
200	20	12469	223.4	232	214	..
175	20	13326	217.2	224	208	..
150	20	14308	210.7	217	202	..
125	15	15435	205.1	211	197	..
100	8	16749	197.9	203	191	..
80	6	18065	196.7	204	187	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1001 mb.)						NAGPUR (964 mb.)						NEW DELHI (973 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point
Surface	30	015	304.5	309	299	297.1	29	311	306.2	311	298	294.3	30	210	312.0	317	303	292.2
1000	30	021	..	..	..	..	29	-021	..	..	..	..	30	-047	..	..	..	..
900	30	961	298.8	303	295	291.2	29	929	302.5	307	296	289.8	30	917	307.5	313	302	288.7
850	30	1462	294.9	298	292	288.1	29	1437	298.6	303	294	287.8	30	1430	303.6	309	299	286.1
800	30	1986	291.3	294	288	281.1	29	1967	294.2	298	290	286.1	30	1967	299.2	305	295	283.8
700	30	3118	284.2	287	281	279.2	29	3109	286.0	289	282	278.1	30	3122	289.6	295	286	277.9
600	30	4391	277.3	280	274	272.6	29	4388	277.6	282	272	269.3	30	4410	279.9	283	275	268.7
500	28	5856	269.6	273	265	..	27	5884	269.9	273	265	..	30	5883	271.4	275	266	..
400	28	7586	259.3	266	256	..	27	7592	261.0	269	250	..	30	7632	262.9	268	259	..
300	28	9713	244.1	251	237	..	21	9749	247.0	255	242	..	27	9792	248.5	253	244	..
250	28	10993	235.0	243	226	..	13	11013	235.9	239	230	..	26	11097	238.6	245	230	..
200	21	12464	223.2	228	216	..	12	12500	223.2	229	215	..	26	12625	227.0	232	224	..
175	16	13348	217.7	225	209	..	19	13341	216.5	219	209	..	26	13504	228.5	228	217	..
150	10	14289	211.8	219	203	..	10	14317	210.5	215	203	..	24	14484	214.6	219	210	..
125							10	15377	203.3	209	199	..	22	15591	206.5	211	201	..
100							10	16737	197.3	204	188	..	20	16896	198.2	204	193	..
80												..	18	18193	199.4	208	193	..

Standard Pressure Surface mbs.	PORT BLAIR (997 mb.)						TRIVANDRUM (999 mb.)						VERAVAL (1001 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point
Surface	30	079	300.1	302	296	297.4	30	064	300.5	303	298	296.7	30	008	303.9	306	300	299.6
1000	30	050	..	..	..	..	30	062	..	..	..	..	30	023	..	..	..	..
900	29	979	294.7	297	291	293.3	28	989	294.5	297	292	290.4	30	952	296.0	299	299	291.5
850	29	1474	292.1	296	289	290.4	28	1483	292.0	294	289	287.1	30	1449	294.2	299	289	285.9
800	29	1994	289.5	293	284	287.0	28	2002	289.4	291	287	284.0	30	1977	292.4	298	288	279.5
700	29	3123	284.1	288	279	279.7	28	3129	284.0	286	282	275.9	30	3111	287.1	296	283	279.1
600	28	4392	277.2	281	271	273.0	28	4402	277.3	281	274	268.4	30	4391	278.2	282	274	268.4
500	27	5850	268.7	275	261	..	28	5863	269.3	273	266	..	30	5858	270.7	274	268	..
400	27	7574	258.4	265	254	..	28	7590	258.2	266	254	..	29	7596	260.1	265	255	..
300	25	9697	245.1	251	241	..	28	9714	244.3	255	239	..	29	9732	246.2	251	237	..
250	22	10987	236.4	242	231	..	28	11001	234.9	246	229	..	29	11023	236.6	245	229	..
200	18	12489	225.5	230	221	..	26	12478	222.8	230	215	..	28	12532	224.8	234	214	..
175	13	13364	221.2	227	218	..	25	13333	216.0	225	208	..	28	13398	221.6	228	214	..
150	8	14322	210.7	215	206	..	24	14300	208.6	219	201	..	27	14371	211.6	221	204	..
125	5	15423	202.8	209	201	..	20	15420	204.3	213	195	..	25	15485	204.6	214	197	..
100							11	16816	201.7	206	198	..	22	16819	199.4	208	186	..
80							7	18172	201.1	204	197	..	15	18104	199.4	211	185	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

June 1959 (Jyaistha 11—Asadha 9, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (995 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	303.2	305	298	298.1
1000	30	005	..	..	..	..
900	30	943	298.1	302	295	292.1
850	30	1445	295.7	300	292	289.1
800	30	1971	292.6	297	289	285.8
700	30	3108	285.9	291	281	278.3
600	30	4378	277.9	285	275	270.6
500	30	5853	270.0	279	267	..
400	29	7586	259.0	265	251	..
300	23	9708	244.8	249	233	..
250	17	11002	236.1	244	230	..
200	15	12502	222.8	232	215	..
175	13	13352	215.8	224	214	..
150	10	14310	207.8	216	197	..
125	8	15409	200.7	208	195	..
100						
80						

Note.—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

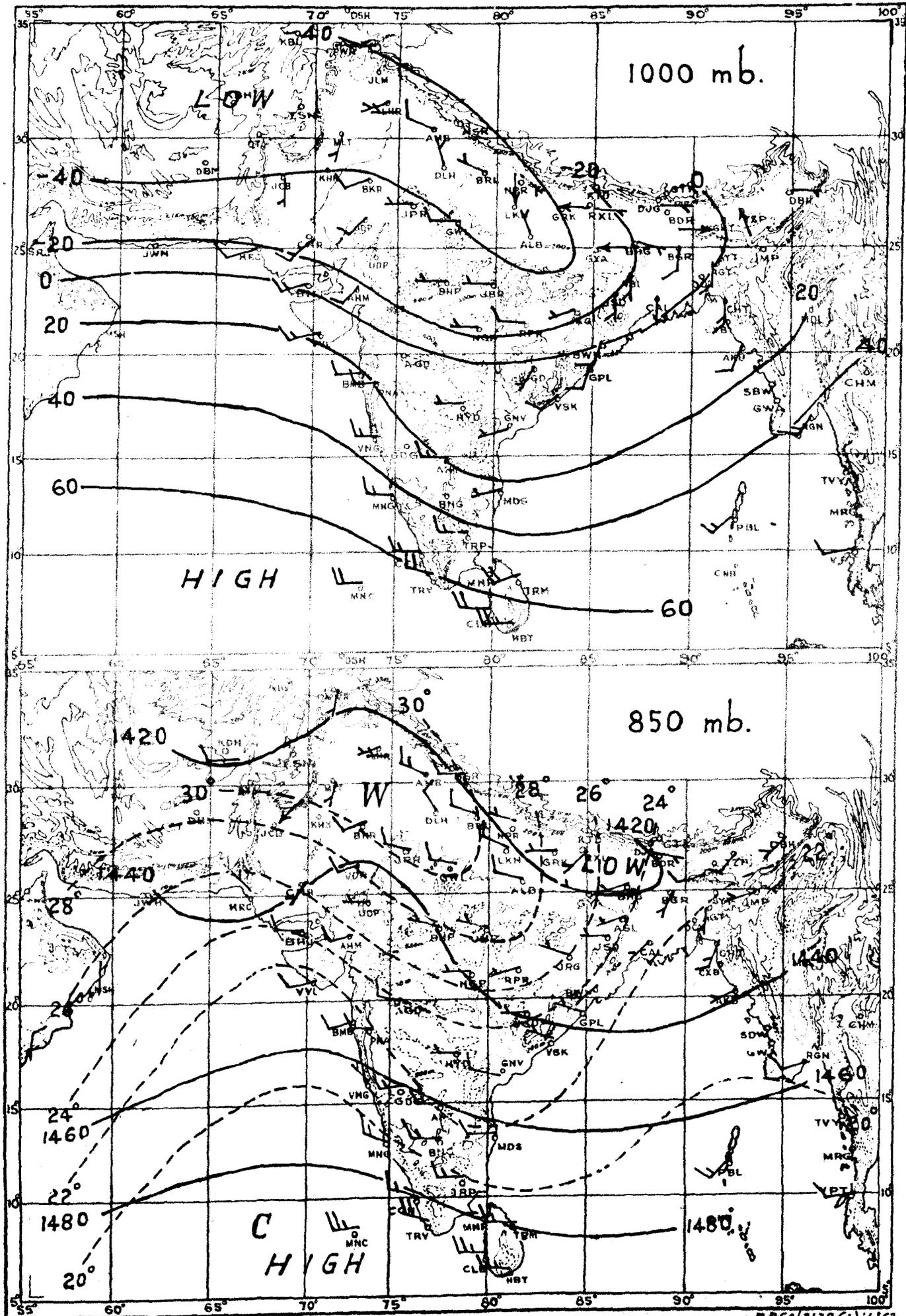
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

JUNE 1959

I. Met. D.

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

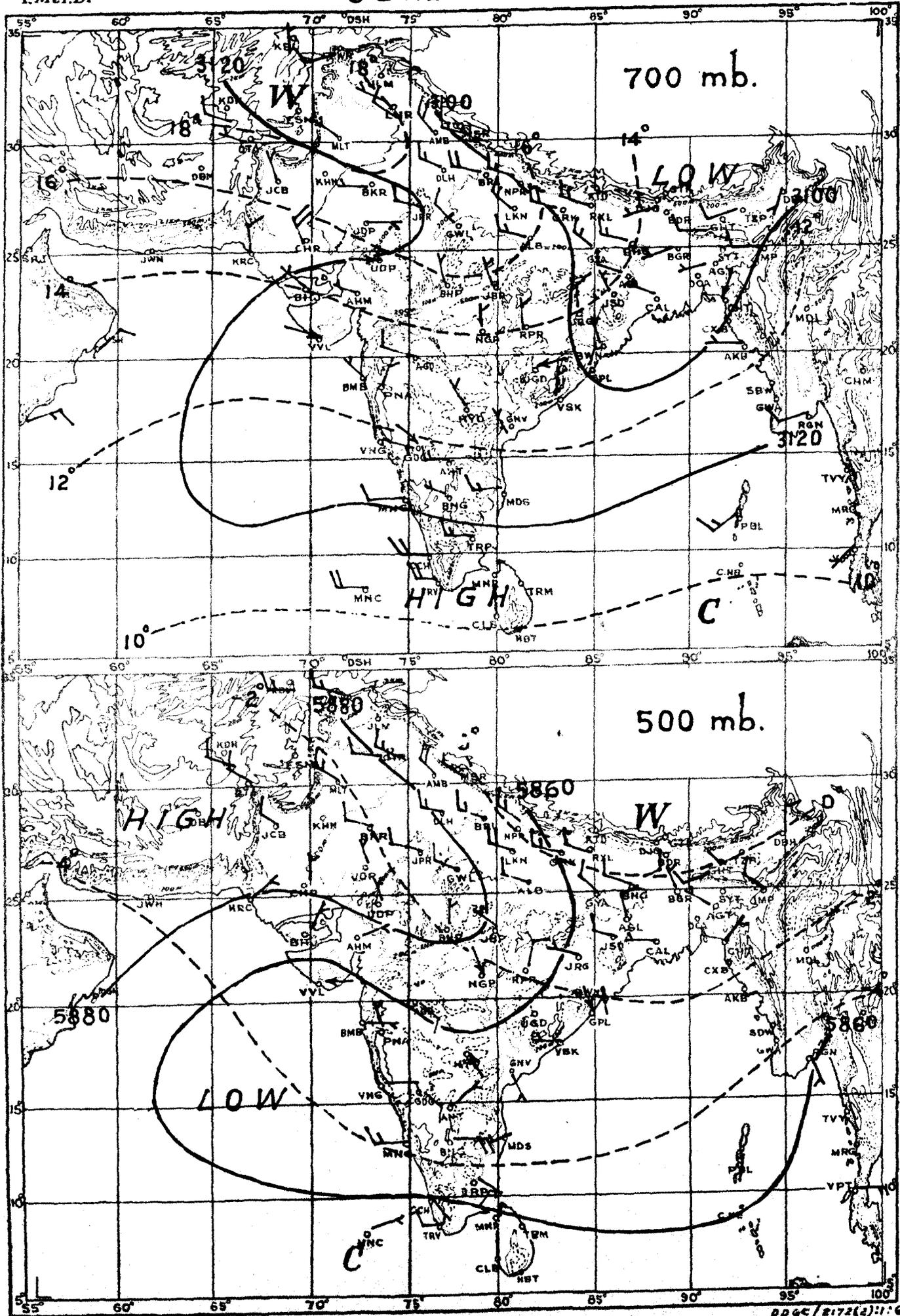
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

JUNE 1959

Plate II

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

U.P.S. P. PUNNA, 1953

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

July

Published by authority of the Government of India

Chief features—

- (1) An extension of the monsoon into Jammu and Kashmir, Himachal Pradesh, the Punjab (I) and west Rajasthan by the end of the first week of the month,
- (2) Good and well distributed rainfall over most parts of the country, and
- (3) A spell of very heavy rain in Jammu and Kashmir and in Saurashtra and Kutch.

The remnant of last month's cyclonic storm lay as a deep depression centred about 125 kms to the northwest of Ratlam on the morning of 1st July. Moving westwards, it emerged into the north-east Arabian Sea by next morning with centre near Lat. 23.5°N and Long. 67.5°E . Thereafter, it moved slowly northwestwards, recurved and finally merged in the seasonal low over Sind by 5th evening after causing vigorous monsoon conditions along and off the Sind, Kathiawar and the Konkan coasts and in Gujrat and Saurashtra and Kutch between 1st and 5th. Ahmedabad recorded 13 cm and Surat 12 cm on 2nd.

A shallow depression formed in the northwest Bay of Bengal on 3rd morning with centre near Lat. 19.5°N and Long. 89.0°E , crossed the Orissa coast on the night of 4th and 5th and finally moved across the Punjab Hills as a low pressure area on 9th. Under its influence, the monsoon advanced into the Punjab (I), Himachal Pradesh, Jammu and Kashmir and west Rajasthan by 8th. A few heavy to very heavy falls were reported from Jammu and Kashmir, Himachal Pradesh and the Punjab-Kumaon hills on 5th and 6th; Jammu recorded 28 cm on 5th. According to press reports, the heavy rains caused unprecedented floods in Jammu and Kashmir inundating almost the entire central valley of Kashmir. There was considerable damage to standing crops and property and loss of some human lives.

During the second and third week of the month the activity of the monsoon was associated with the formation and movement of two depressions in quick succession. The first depression formed on 10th evening over the Sunderbans coast and moving westwards across the entire breadth of the country emerged into the northeast Arabian Sea by 15th morning. Active monsoon conditions prevailed along and near the track of the depression between 10th and 15th. Mandla recorded 21 cm on 12th, Kannod (west Madhya Pradesh) 21 cm, Hoshangabad 20 cm and Indore 18 cm on 13th. Bhuj had an all time record rainfall of 47 cm on 15th. The heavy rains at Bhuj flooded low lying areas and caused collapse of several buildings and houses. The second depression formed in the west central Bay of Bengal on 17th morning with centre near Lat. 16°N and long. 87°E . Taking a northerly course it lay close to coast between Balasore and Contai on 19th evening and weakened into an extended low pressure area by 20th morning. It served to maintain the activity of the monsoon over most parts of the country during the period 16th to 22nd.

A shallow low pressure area appeared over south Rajasthan and the adjoining areas of north Gujarat on 22nd. It moved slowly westwards, weakened and finally merged in the seasonal low over West Pakistan on 26th. Under its influence, the monsoon current strengthened over the Konkan, Gujrat, Saurashtra and Kutch where a few heavy to very heavy falls were recorded. Palanpur (Gujrat) reported 17 cm of rain on 25th. In association with another low pressure area which appeared over south Orissa on 23rd and moved away westwards across Rajasthan by the end of the month, the monsoon showed sustained activity over the region extending from Orissa to Saurashtra and Kutch during the last week of the month, being particularly vigorous over Saurashtra and Kutch on 27th. During this period a few heavy to very heavy falls also occurred along the west coast, in Andhra Pradesh, Jammu and Kashmir, Himachal Pradesh and the Punjab-Kumaon hills.

"Copyright © 1959 by the Manager of Publication, Govt. of India, Delhi-8."

Dharamsala recorded 24 cm on 25th, Bhandardara (Maharashtra) 30 cm and Junagadh (Saurashtra) 21 cm each on 27th and Porbandar 20 cm on 28th. As a result of the heavy rains, floods were reported from various parts of the country, particularly from coastal Andhra Pradesh, the Mysore State, the Punjab (I) and Saurashtra and Kutch during the last week of the month.

The rainfall for the month was in large excess in the Bay Islands, Jammu and Kashmir, west Rajasthan, Gujrat, Saurashtra and Kutch, Telangana, south Interior Mysore and Kerala, in moderate excess in Maharashtra (including Marathwada), coastal Andhra Pradesh, Rayalaseema and coastal Mysore and in slight excess in east Rajasthan, Madhya Pradesh, the Konkan and Vidarbha. It was in slight defect in Assam, Sub-Himalayan West Bengal, Bihar Plains, east Uttar Pradesh and north Interior Mysore and in moderate defect in Gangetic West Bengal and the Madras State. The rainfall was normal over the rest of the country outside Himachal Pradesh.

The mean maximum temperature was below normal in Jammu and Kashmir, east Rajasthan, Gujrat, Saurashtra and Kutch, Vidarbha, coastal Andhra Pradesh, Rayalaseema and Interior Mysore and normal over the rest of the country outside Himachal Pradesh. The mean minimum temperature was normal throughout the country outside Himachal Pradesh.

The mean relative humidity in the morning was in excess in Rajasthan, Gujarat, Saurashtra and Kutch, Maharashtra (including Marathwada), Rayalaseema and Interior Mysore and was normal over the rest of the country outside Himachal Pradesh.

The mean cloud amount in the morning was in excess in the Madras State and north Interior Mysore and normal over the rest of the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,

The 12th December 1959.

C. RAMASWAMY,

for Director General of Observatories.

Page No.	Station	Hour	Column	For	Read
<u>Table I- Division.</u>					
349	6. Punjab (India) Including Himachal Pradesh and Delhi)		4	-3.2	-0.2
<u>Sub-Division</u>					
349	1. Bay Islands		2	+588.0	+538.0
<u>Table II</u>					
350	Tura		13	52.2	57.2
351	Dhanbad		10	145.9	145.4
351	Dhanbad		17	8.2(d)	8.2(b)
351	Allahabad(Bamrauli)		28	0	2
351	Sultanpur		28	2	0
351	Kanpur (Aerodrome)		5	4,17	17
351	Lucknow		5	17	4,17
352	Lakhimpur Kheri		9	4	4 days
352	Bahraich		9	Days 10	10
352	Bhatinda		5	1,721	17, 21
352	Srinagar (Aerodrome)		8	12.3	12.8
352	(Foot note)		-	Data not reliable	*Data not reliable
353	Mandla		9	1	11
354	Porbander (Aerodrome)		24	1	0
354	Mahva		9	33,27	3,27
354	Khandala		11	2872.6	2872.8
354	Nagpur		12	+111.9	+111.8
354	Chanda		11	470.2	470.0
354	(Foot note)		-	(e) Mean of 29 days	(b) Mean of 29 days
356	Kodaikanal		27	0	2
356	Lachen		29	(Blank)	0
<u>Table III.</u>					
359	Port Blair	1130	5	(Not clear)	998.0
359	Gauhati	0830	7	26.3	26.9
359	(Foot note)	-	-	*Wind observations for days.	* Wind observations for 30 days.
361	Barrackpore	0530	10	33.7	32.7
361	Asansol	0830	26	5	0
362	Angul	1730	9	24.0	24.2
363	Patna (Aerodrome)	0830	11	93	83
363	Allahabad(Bamrauli)	1730	24	1	3
364	Bahraich	1730	5	983.8	983.5
365	Srinagar	0830	4	1426.	1426.1
366	Phalodi	0830	15	8.0(b)	18.0(b)
366	Phalodi	1730	19	(Blank)	1
366	Jodhpur	2330	21	(Blank)	0
366	Barmer	0830	21	(Blank)	1
369	Mandvi	0830	28	0	5
369	Mandvi	1730	- 28	5	0
370	Jalgaon	1730	8	24.9	24.8
371	Aurangabad(Chikalhana (Aerodrome)	1130	8	32.2	23.2
371	Baramati	0830	8	22.2	22.1

Page No.	Station	Hour	Column	For	Read
<u>Table III (Contd.)</u>					
371	Nagpur	0830	28	(Blank)	0
371	Brahmapuri	1730	26	8	3
372	Visakhapatam	2330	11	80	86
372	Hakimpet	0830	4	(Not clear)	1003.2
372	Hakimpet	1130	4	(Not clear)	1002.6
373	Nagapattinam	1730	23	1	6
374	Madras	0830	5	1004.6	1004.2
374	Belgaum(Sambre Aerodrome)	1130	26	(Blank)	1
376	Kalimpong	1730	28	(Blank)	0
377	Hazaribagh	0830	8	22.3	22.8
377	Hazaribagh	1730	5	929.5	929.4
377	Jhadol	0830	10	27.3	27.8
378	Barahskhetra	1730	4	998.8	998.0

Page No.	Station	Time in I.S.T.	Height in Km.	Entry under column	Existing entry.	Correct entry
379		First line, last word			Static	Station
379		Second line, last word			a	at
381	Amausi	0530	3.0	D	073	093
381	Amausi	0530	4.5	D	372	072
381	Amausi	0530	9.0	v	19.8	10.8
381	Amausi	2330	3.6	D	433	033
384	Begumpet	2330	Surface	D	224	264
384	Bhagalpur	1730	6.0	v	307	3.7
388	Jabalpur	2330	0.6	V	6.1	6.3
391	New Delhi	0530	3.6	D	79	79
391	New Delhi	2330	0.3 to 4.5	n V v D	Values printed for the levels from 0.6 to 5.4 may be read for the levels from 0.3 to 4.5	
392	Raipur	0530	1.5	v	9.9	6.9
393	Tiruchirapalli	0530	2.1	V	4.6	14.6
395	Dum Dum	1730*	10.5 to 21.0	n V v D	Values slightly shifted below.	
395	Gauhati	0530*	10.5 to 21.0	n V v D	Values slightly shifted below.	
		1730*	10.5 to 16.2	n V v D	Values slightly shifted below.	
395	Gaya	0530	10.5 to 14.1	n V v D	Values slightly shifted below.	
		1730	10.5 to 14.1	n V v D	Values slightly shifted below.	
395	Gopalpur	1730	10.5	n V v D	Values slightly shifted below.	
395	Gorakhpur	1730	10.5 to 14.1	n V v D	Values slightly shifted below.	
396	Veraval	0530	14.1	D	094	084

Radiosonde data.

398	Calcutta	00 GMT	Surface Tr.		991	998
401	Calcutta	12 GMT	850 mb.	Ht. gpm.	14.5	105
403	Visakhapatnam	12 GMT	175 mb.	No. of Obs.	13	19

1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud		1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud	
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9		
Division								Division—contd.									
1. Assam (Including Manipur, Tripura)	329.2 -71.4	82	32.3 +0.6	25.5 +0.3	86 +1	79	6.5 -0.1	5.4	8. Rajasthan	209.3 +52.8	136	31.3 -0.8	26.0 -0.3	80 +9	64	5.3 +0.5	5.4
2. West Bengal	299.6 -109.8	73	31.5 -0.4	26.0 +0.1	86 +2	83	6.0 -0.4	5.6	9. Madhya Pradesh	435.3 +61.3	116	29.9 -0.5	23.7 -0.1	86 +3	77	7.1 +0.7	7.1
3. Orissa	326.7 -6.9	98	31.5 +0.3	25.9 +0.1	83 +1	79	6.6 +0.6	7.1	10. Bombay	580.2 +184.1	147	29.7 -1.0	24.0 -0.4	88 +6	83	7.1 +0.5	7.2
4. Bihar	291.1 -34.7	89	32.1 +0.4	25.5 +0.1	82 0	78	6.4 +0.1	6.4	11. Andhra Pradesh	210.5 +69.0	149	31.8 -1.3	24.5 -0.5	78 +4	68	6.6 +0.4	7.1
5. Uttar Pradesh	264.7 -48.4	85	33.5 +0.1	26.3 +0.2	81 +2	70	6.1 +0.7	5.8	12. Madras State	38.7 -17.2	69	33.5 -0.9	25.0 -0.1	69 +1	61	6.3 +1.4	6.7
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	180.9 -15.1	92	35.9 -3.2	26.9 +0.1	76 +1	62	4.1 -0.2	3.6	13. Mysore	553.5 +144.1	135	27.2 -1.3	21.2 +0.1	88 +5	75	7.3 +0.9	7.3
7. Jammu and Kashmir	223.0 +165.0	384	23.8 -1.9	13.2 +0.2	65 -4	57	4.3 +0.6	4.2	14. Kerala	975.9 +437.9	181	28.0 -0.4	23.3 -0.1	91 +2	89	7.0 +0.2	6.9
Sub-Division								Sub-Division—contd.									
1. Bay Islands	929.9 +588.0	237	28.7 -0.1	23.6 -0.3	89 +5	91	6.8 +0.2	7.3	16. Madhya Pradesh (East)	449.4 +43.3	112	29.7 0	23.7 +0.2	84 +2	78	7.0 +0.4	7.2
2. Assam (Including Manipur, Tripura)	329.2 -71.4	82	32.3 +0.6	25.5 +0.3	86 +1	79	6.5 -0.1	5.4	17. Gujarat	627.1 +303.9	194	30.1 -1.7	24.9 -0.3	92 +7	82	7.3 +0.4	7.1
3. Sub-Himalayan West Bengal	481.4 -147.8	77	30.9 -0.8	25.5 -0.2	86 +1	79	6.1 +0.5	5.5	18. Saurashtra and Kutch	586.2 +376.2	279	30.8 -1.6	25.1 -0.9	90 +9	82	6.9 +0.7	7.0
4. Gangetic West Bengal	230.1 -95.5	71	31.6 -0.3	26.2 +0.2	86 +3	81	6.0 -0.6	5.7	19. Konkan	802.1 +95.0	113	29.1 -0.3	24.7 -0.3	88 +3	87	7.4 +0.2	7.4
5. Orissa	326.7 -6.9	98	31.5 +0.3	25.9 +0.1	83 +1	79	6.6 +0.6	7.1	20. Maharashtra	471.8 +147.1	145	28.9 -0.8	21.9 -0.3	85 +7	74	7.0 +0.5	7.2
6. Bihar Plateau	327.6 -19.5	94	31.3 +0.2	24.8 +0.1	82 0	79	6.2 -0.1	6.7	21. Vidarbha	381.6 +63.4	120	30.2 -1.1	23.7 -0.1	85 +5	73	6.7 +0.3	7.4
7. Bihar Plains	259.9 -47.8	85	33.1 +0.6	26.4 +0.2	82 +1	76	6.6 +0.5	6.1	22. Coastal Andhra Pradesh	190.6 +61.7	113	32.5 -1.3	25.3 -0.6	78 +3	68	6.6 +0.3	7.2
8. Uttar Pradesh (East)	244.0 -74.7	77	33.7 +0.4	26.7 +0.4	81 +1	70	6.3 +0.9	5.8	23. Telangana	328.8 +114.7	154	30.2 -0.7	23.2 -0.1	81 +3	70	6.3 +0.3	6.9
9. Uttar Pradesh (West)	285.4 -22.0	93	33.4 -0.3	25.9 -0.1	81 +3	70	5.9 +0.6	5.7	24. Rayalaseema	132.0 +37.9	140	32.2 -2.0	24.2 -0.5	77 +8	63	7.0 +0.7	6.9
10. Punjab (India) (Including Delhi)	180.9 -15.1	92	35.9 -0.2	26.9 +0.1	76 +4	62	4.1 -0.2	3.6	25. Madras State	38.7 -17.2	69	33.5 -0.9	25.0 -0.1	69 +1	61	6.3 +1.4	6.7
11. Himachal Pradesh	478.3 ..	..	31.5 ..	22.8 ..	85 ..	75	6.2 ..	5.7	26. Coastal Mysore	1525.7 +498.1	148	28.4 -0.1	23.0 -0.5	91 +1	87	7.7 +0.7	7.5
12. Jammu and Kashmir	223.0 +165.0	384	23.8 -1.9	13.2 +0.2	65 -4	57	4.3 +0.6	4.2	27. Interior Mysore (North)	231.7 -60.1	79	28.5 -1.1	21.5 +0.2	87 +6	71	7.2 +1.2	7.3
13. Rajasthan (West)	127.9 +49.3	163	36.9 -0.5	27.2 -0.1	78 +10	58	4.1 +0.1	4.6	28. Interior Mysore (South)	389.2 +171.3	179	25.4 -1.9	20.2 +0.2	88 +6	75	7.3 +0.5	7.2
14. Rajasthan (East)	290.7 +57.2	124	31.8 -1.1	24.8 -0.6	82 +7	69	6.4 +1.0	6.1	29. Kerala	975.9 +437.9	181	28.0 -0.4	23.3 -0.1	91 +2	89	7.0 +0.2	6.9
15. Madhya Pradesh (West)	425.5 +74.0	121	30.0 -0.8	23.6 -0.3	86 +3	76	7.1 +0.8	7.0	30. Arabian Sea	273.0 +10.1	104	30.1 +0.6	25.4 +0.3	84 +3	78	6.9 +1.1	6.8

NOTE—The entries in the second line for each division and sub-division indicate departure from normal.

*Data of Himachal Pradesh not included.

Division and station	Air temperature in °C								Rainfall in millimetres						No. of rainy days (2·5 mm. or more)			Wind speed, km. per hour			Weather phenomena—No. of days with										
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0·1 and 0·2 mm)	Precipitation (0·3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														20-a	20-b
Uttar Pradesh (East)—contd.																															
Lucknow (Amausi Aerodrome)	33·2	-0·4	37·6	3	26·2	+0·3	24·1	10	84·0	240·3	-61·5	91·2	20	11	-2·4	18·5	14·4	..	2	14	0	0	7	0	1	0	0	1	0		
Hardoi	33·3	..	37·8	4	26·6	..	24·4	10	81·8	139·8	..	31·4	7	11	..	11·3	8·5	..	0	14	0	0	2	0	0	0	0	0	0		
Lakshmipur Kheri	32·9	..	38·1	1	26·0	..	24·5	4	134·0	283·6	..	61·0	4	13	..	8·6	6·2	..	0	18	0	0	5	0	2	0	0	0	0		
Bahraich	33·2	-0·1	37·8	3,17	26·5	+0·3	24·1	days 10	69·7	311·3	+0·4	91·5	20	14	+2·1	13·2	11·0	+6·5	0	15	0	0	0	0	0	0	0	0	0		
Uttar Pradesh (West)																															
Orai	33·7	..	38·9	4	25·2	..	21·7	11, 13	74·4	241·6	..	45·6	13	12	..	14·5	11·4	..	0	17	0	0	0	0	0	0	0	0	0	0	
Jhansi	32·6	-1·1	37·3	4	25·7	-0·2	22·8	11	184·4	356·0	+56·0	80·0	30	14	+0·2	10·5	7·2	+0·4	0	17	0	0	0	0	0	0	0	0	0	0	
Agra	33·9	-0·4	38·0	17	25·9	-1·0	23·3	12	73·8	203·7	-13·5	55·4	21	10	-1·0	2·9	2·9	-5·0	0	11	0	0	0	0	1	0	0	0	0	0	
Agra (Aerodrome)	34·1	..	38·3	17	26·6	..	21·3	12	40·7	187·1	..	32·9	21	10	..	..	..	..	0	15	0	0	14	0	0	0	0	0	0	
Mainpuri	33·2	-1·9	40·7	1	26·9	+0·1	23·9	10	79·9	135·3	-56·2	29·4	26	10	-0·4	..	..	..	0	12	0	0	2	0	0	0	0	0	0	0
Aligarh	34·9	+0·3	39·9	17	26·4	-0·3	23·1	11	61·8	90·6	-132·2	46·4	23	8	-2·3	12·0	10·1	+2·7	0	9	0	0	3	0	0	0	0	0	0	0	
Barceilly	33·6	+0·2	39·7	17	26·3	+0·2	23·6	5	73·4	376·7	+47·5	134·0	26	12	-0·8	9·3	6·0	+2·5	0	16	0	0	2	0	0	0	0	0	0	0	
Meerut	34·7	+0·6	39·4	17	26·8	+0·4	24·8	11	..	43·0	-175·2	14·0	7	4	-6·3	..	8·8	..	0	8	0	0	0	0	0	0	0	0	0	0	
Najibabad	33·9	..	38·9	2	25·3	..	21·8	18	98·7	304·0	..	99·4	18	11	..	7·6	5·5	..	0	13	0	0	2	0	0	0	0	0	0	0	
Roorkee	33·7	+0·3	38·6	17	25·9	+0·3	23·1	7	95·0	435·7	+123·3	123·4	18	9	-2·9	10·4	6·8	+2·8	0	11	0	0	7	0	0	0	0	0	0	0	
Delhra Dun	30·3	0	34·6	1	23·3	+0·1	21·7	25	235·0	642·0	-26·0	81·0	18	22	+1·7	5·1	3·3	+0·7	1	25	0	0	9	0	0	0	0	0	0	0	
Punjab (India) (Including Delhi)																															
New Delhi	35·4	+0·3	39·9	17	26·9	0	24·2	11	72·0	128·2	-50·4	34·2	28	8	-1·0	11·0	8·5	-1·8	0	13	0	0	6	0	0	0	0	0	0	0	
New Delhi (Palam Aerodrome)	35·4	..	40·3	16	26·9	..	24·2	11	78·6	180·7	..	45·8	7	10	..	..	..	..	1	11	0	0	7	0	0	0	0	0	0	0
Hissar	37·1	-0·5	40·9	17	27·5	+0·2	24·1	6	181·7	266·1	+157·4	95·6	7	5	-1·0	12·9	11·6	+2·7	0	5	0	0	5	0	1	0	0	0	0	0	
Karnal	35·7	..	43·9	5	..	..	..	..	21·7	103·9	..	40·0	11	6	..	3·5	3·2	..	0	7	0	0	0	0	0	0	0	0	0	0
Patiala	35·1	..	39·6	18	26·5	..	22·2	6	68·4	163·0	-80·3	46·0	26	8	+0·3	12·7	10·0	..	0	8	0	0	3	0	1	0	0	0	0	0	
Ambala	35·2	-0·1	42·9	1	26·0	-0·2	22·7	6	55·8	235·7	-8·4	53·4	6	9	-1·6	10·6	9·1	+4·1	0	11	0	0	1	0	0	0	0	0	0	0	
Ambala (Aerodrome)	34·2	..	38·3	18	25·7	..	22·2	6	85·3	261·4	..	75·1	6	10	..	..	..	..	0	11	0	0	10	0	2	0	0	0	0	0
Chandigarh	33·8	..	36·9	1	24·8	..	20·9	6	72·6	253·2	..	94·2	6	9	..	..	..	..	2	11	0	0	0	0	0	0	0	0	0	0
Ludhiana	35·9	-0·4	40·5	17	27·2	+0·4	21·7	6	26·1	111·3	-93·7	82·0	5	3	-5·4	2·7	1·7	-1·5	2	3	0	0	0	0	0	0	0	0	0	0	
Halwara (Aerodrome)	35·6	..	39·2	18	26·3	..	22·2	6,26	46·7	185·6	..	107·7	6	6	..	..	..	..	0	7	0	0	10	0	2	0	0	0	0	0
Bhatinda	37·4	..	40·7	1,721	..	..	..	..	2·3	18·7	..	12·0	6	3	..	16·4	11·3	..	0	3	0	0	6	0	1	0	0	0	0	0
Ferozepur	36·1	..	39·6	2	27·1	..	22·3	4	55·3	73·5	..	33·9	6	8	..	4·5	3·0	..	0	8	0	0	1	0	0	0	0	0	0	0	
Amritsar	34·6	..	39·6	2	25·8	..	22·1	12	192·2	295·8	..	66·0	6	13	..	12·6	11·1	..	0	13	0	0	10	0	0	0	0	0	0	0	
Pathankot	33·4	..	37·2	18	24·5	..	21·1	6	317·5	599·7	..	167·0	6	13	..	3·6	2·7	..	0	18	0	0	1	0	0	0	0	0	0	0	
Pathankot (Aerodrome)	33·3	..	37·9	18	25·1	..	21·1	6	284·9	658·3	..	170·5	6	13	..	10·0	8·9	..	1	17	0	0	19	0	0	0	0	0	0	0	
Adampur (Aerodrome)	34·9	..	38·9	18	25·8	..	21·5	24	149·8	212·1	..	94·5	6	6	..	..	..	..	0	8	0	0	12	0	1	0	0	0	0	0
Himachal Pradesh																															
Bilaspur	32·2	..	35·1	2,17	23·9	..	21·5	6	188·7	480·3	..	98·0	6	19	..	6·5	4·8	..	0	22	0	0	9	0	0	0	0	0	0	0	0
Mandi	30·7	..	34·5	4	21·7	..	18·9	6	167·5	476·2	..	98·8	18	22	..	4·0	2·3	..	2	22	0	0	12	0	0	0	0	0	0	0	
Jammu and Kashmir																															
Srinagar	28·2	-2·8	33·3	1	18·7	+0·8	13·9	6	58·1	177·6	+118·4	79·0	5	8	+3·1	5·2	4·6	+0·6	0	13	0	0	6	0	0	0	0	0	0	0	
Srinagar (Aerodrome)	27·3	..	32·3	2	18·0	..	12·3	6	45·3	157·9	..	58·4	5	8	..	..	..	..	0	13	0	0	5	0	0	0	0	0	0	0
Gulmarg	19·4	-2·1	26·9	2	9·9	-0·1	4·4	7	197·9	484·9	+381·8	236·2	5	14	+5·1	6·5	4·3	-0·8	0	21	0	1	11	1	0	0	0	0	0	0	
Sonamarg (R)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dras	..	..	..	..	..	..	..	..	..	63·1	+47·1	53·9	5	3	-1·4	..	..	..	0	3	..	..	..	..	..	..	..	..	..
Kargil*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1	0	0	0	0	0	0	0	0	0	0
Leh Skardu (R)	23·8	-0·9	29·4	18,19	11·1	+0·9	6·1	6	2·0	6·6	-5·3	6·6	6	1	-0·4	6·0	5·8	+2·7	0	1	0	0	0	0	0	0	0	0	0	0	
Gilgit (R)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Misgar (R)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu (R)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu (Aerodrome)	33·2	..	38·4	15	25·1	..	21·8	6	303·0	713·8	..	276·1	5	13	..	..	..	..	0	16	0	0	21	0	2	0	0	0	0	0
Rajasthan (West)																															
Sri Ganganagar	38·5	-0·4	42·3	1,321	28·4	+0·3	24·6	22	62·1	62·0	+6·1	24·1	23	6	+1·7	9·9	7·1	-4·8	0	11	0	0	4	0	2	0	0				

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA) 353

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with														
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.3 and 0.2 mm.)	Precipitation (0.3 mm. or more.)	Snow or sleet	Hail	Thunder heard	Fog	Dust storm	Ground frost	Gale	Squall	1 in equal				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20-a	20-b	21	22	23	24	25	26	27	28	29			
Rajasthan (West)																																	
—contd.																																	
Bikaner	37.8	-0.7	41.0	13	27.6	-0.4	23.1	22	171.9	206.3	+121.5	54.3	26	8	+3.1	10.5	9.8	-1.5	0	9	0	0	6	0	0	0	0	0	0	0	0		
Jaisalmer	37.6	..	43.3	14	26.6	..	22.3	27	22.0	140.8	..	75.8	22	5	..	19.0	19.2	..	0	8	0	0	0	0	0	0	0	0	0	0	0		
Phalodi	36.8	..	40.7	1	26.9	..	24.4	22	72.8	162.0	+93.2	43.2	22	7	+3.2	20.2	18.8	..	0	8	0	0	3	0	2	0	0	0	0	0	0		
Nagaur	36.3	..	39.3	1	27.1	..	22.7	13	42.9	95.7	..	37.0	13	7	..	12.9	11.4	..	0	7	0	0	3	0	0	0	0	0	2	0	0		
Jodhpur	35.6	-0.5	39.1	26	26.5	-0.3	23.4	13	17.0	101.1	+0.3	30.2	28	7	+1.5	15.4	14.3	-5.2	1	13	0	0	7	0	0	0	0	0	2	0	0		
Barmer	35.5	-0.3	40.7	1	26.3	+0.2	23.0	27	48.5	107.9	+25.4	30.2	27	9	+5.0	..	..	..	0	18	0	0	5	0	2	0	0	0	0	0	0	
Rajasthan (East)																																	
Pilani	36.9	..	40.6	17	25.3	..	18.3	14	30.4	62.8	..	21.6	28	4	..	16.3	13.6	..	1	5	0	0	0	0	0	0	0	0	0	0	0		
Alwar	35.0	..	40.1	14	26.5	..	23.6	14	92.8	187.3	..	55.8	21	11	..	8.6	5.9	..	1	14	0	0	7	0	0	0	0	0	0	0	0		
Sikar	35.2	..	38.3	15	26.2	..	23.3	31	53.0	155.7	..	74.6	31	8	..	7.4	5.9	..	0	9	0	0	1	0	0	0	0	0	0	0	0		
Jaipur (Sanganer Aerodrome)	33.1	-1.5	36.9	5	25.4	-0.3	22.2	14	116.6	201.1	-4.5	57.0	22	9	-1.3	..	..	..	3	14	0	0	12	0	0	0	0	0	6	0	0	
Dholpur	34.2	..	38.6	4	26.5	..	23.8	12	48.2	216.5	..	52.3	27	12	..	9.7	7.7	..	0	17	0	0	9	0	1	0	0	0	0	0	0		
Tonk	33.9	..	38.7	5	25.7	..	22.2	27	136.1	208.1	..	61.8	27	15	..	13.3	9.9	..	0	19	0	0	2	0	0	0	0	0	0	0	0		
Ajmer	32.1	-1.1	37.3	1	24.6	-1.2	21.7	14	105.1	383.1	+220.3	139.6	22	11	-2.1	12.5	11.6	+1.9	1	16	0	0	11	0	0	0	0	0	0	0	0	0	
Kotah	33.1	-1.3	38.0	5	25.3	-0.8	22.7	12	151.4	366.0	+108.4	83.4	22	13	+1.9	10.2	8.7	+2.3	0	21	0	0	6	0	0	0	0	0	0	0	0	0	
Chambal	31.5	..	36.1	5	24.7	..	22.5	14	52.0	281.0	..	65.2	22	12	..	10.0	8.0	..	0	20	0	0	9	0	0	0	0	0	0	0	0	0	
Jhalawar	31.9	-0.3	35.8	1	25.0	+0.2	22.2	14	68.8	151.0	-145.7	25.0	6	15	+1.5	11.5	9.9	+2.0	0	17	0	0	1	0	0	0	0	0	0	0	0	0	
Udaipur	30.0	-1.8	32.7	25	23.7	-0.6	22.0	14	129.3	262.9	+45.7	54.1	23	14	+3.6	5.2	5.0	..	0	18	0	0	3	0	0	0	0	0	0	0	0	0	
Erinpura (Jawai Dam)	32.6	..	37.2	1	25.1	..	22.3	27	97.2	238.9	..	44.4	27	11	..	9.0	8.9	..	0	17	0	0	0	0	0	0	0	0	0	0	0	0	
Madhya Pradesh																																	
—contd.																																	
Gwalior (P.B.O.)	33.7	-0.2	37.6	4	26.2	-0.4	23.6	22	135.4	266.8	-31.7	40.8	22	13	-1.3	11.8	9.5	..	0	19	0	0	13	0	0	0	0	0	0	0	0	0	
Sheopur Kalan	31.7	..	36.6	5	25.3	..	23.6	14	172.0	432.8	..	97.0	26	16	..	10.6	9.2	..	0	17	0	0	6	0	0	0	0	0	0	0	0	0	
Guna	30.0	-1.1	34.1	5	23.8	-0.2	21.3	14	140.2	316.9	-47.6	74.7	6	18	+2.5	15.8	12.9	..	0	21	0	0	8	0	0	0	0	0	0	0	0	0	
Rajgarh	31.3	..	35.1	5	24.2	..	21.8	14	84.8	459.9	..	49.3	13	16	..	17.8	13.8	..	0	16	0	0	2	0	0	0	0	0	0	0	0	0	
Neemuch	30.2	-0.9	34.2	1	23.4	-0.3	21.2	13	203.4	400.7	+160.2	80.2	13	17	+6.4	14.0	12.6	-1.6	2	22	0	0	4	0	0	0	0	0	0	0	0	0	
Ratlam	29.0	..	33.6	25	22.7	..	20.6	14	218.3	463.5	..	93.5	1	19	..	14.4	12.0	..	2	25	0	0	4	0	0	0	0	0	0	0	0	0	
Alirajpur	29.3	..	32.9	6	23.9	..	21.6	14	117.4	440.7	..	69.2	14	16	..	14.3	12.5	..	0	21	0	0	0	0	0	0	0	0	0	0	0	0	
Indore	28.1	-1.8	32.1	5	22.2	-0.3	20.6	13	201.3	689.8	+407.3	180.4	13	19	+5.7	28.6	24.5	..	0	25	0	0	7	0	0	0	1	0	0	0	0		
Bhopal (Bairagarh)	29.6	-0.2	37.9	2	22.2	-1.2	19.0	13	159.9	462.7	+38.4	110.7	13	16	-0.4	24.2	19.4	+3.3	1	24	0	0	5	0	0	0	0	0	0	1	0		
Khandwa	29.7	-1.4	33.2	11	23.8	-0.3	18.9	6	120.8	445.0	+199.6	153.0	1	16	+3.9	17.5	14.5	+2.6	0	19	0	0	0	0	0	0	0	0	0	0	0	0	
Hoshangabad	29.5	-0.6	35.9	3	23.4	-0.5	20.7	13	229.2	617.0	+192.6	203.4	13	20	+4.3	9.8	6.4	+0.6	0	24	0	0	4	0	0	0	0	0	0	0	0	0	
Betul	26.9	..	35.6	4	22.0	..	19.3	13	112.4	505.2	..	100.8	1	19	..	14.1	10.5	..	0	25	0	0	3	0	0	0	0	0	0	0	0	0	
Chhindwara	26.5	..	31.7	4	22.4	..	20.0	13	127.5	287.1	..	48.0	6	17	..	14.1	10.5	..	0	25	0	0	3	0	0	0	0	0	0	0	0	0	
Seoni	28.2	-0.7	32.3	1	22.6	+0.2	20.6	13	121.6	294.1	-117.9	51.2	4	15	-3.3	12.8	5.7	-1.5	0	22	0	0	6	0	0	0	0	0	0	0	0	0	
Sagar	29.1	-0.8	32.9	4	23.3	+0.5	20.7	14	100.2	317.0	-78.5	120.0	12	13	-3.5	13.9	11.9	..	1	19	0	0	6	0	0	0	0	0	0	0	0	0	
Nowgong	32.2	-0.6	37.7	4	25.1	-0.8	22.7	11	156.2	444.9	+94.1	106.4	11	16	+1.9	9.3	7.3	+2.3	0	17	0	0	12	0	0	0	0	0	0	0	0	0	
Madhya Pradesh (East)																																	
Sutna	31.7	+0.1	36.8	3	25.1	-0.1	22.3	10	162.8	565.4	-203.5	83.1	21	18	+2.6	10.4	8.3	+0.1	0	23	0	0	10	0	0	0	0	0	0	0	0	0	
Sidhi	32.5	..	40.2	4	24.0	..	21.1	20	139.2	430.4	..	97.4	11	16	..	11.0	8.1	..	0	16	0	0	13	0	0	0	0	0	0	0	0	0	
Umari	29.7	-0.6	34.3	3	23.9	-0.1	21.3	11	267.4	630.2	+179.3	179.8	11	17	-3.1	8.1	6.7	+0.6	0	27	0	0	6	0	0	0	0	0	0	0	0	0	
Jabalpur	30.4	+0.2	35.3	3	23.8	+0.1	22.2	30	223.5	557.1	+64.8	77.8	30	24	+5.9	9.9	8.1	+2.6	2	26	0	0	11	0	0	0	0	0	0	0	0	0	
Mandla	29.2	..	33.1	4	23.4	..	20.8	11																									

Division and station	Air temperature in °C								Rainfall in millimetres				No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with																
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall					
																														20a	20b	21	22	23
Coastal Andhra Pradesh.																																		
Nellore	33.7	-2.4	37.1	31	26.5	-0.1	23.8	6	8.1	35.5	-34.4	10.4	6	6	+0.5	6.9	4.3	-5.0	1	10	0	0	0	0	0	0	0	0	0	0	0			
Ongole	33.5	..	38.1	27	26.5	..	23.8	18	9.8	71.8	..	21.6	4	7	..	9.1	9.3	..	0	10	0	0	0	0	0	0	0	0	0	0	0			
Rentachintala	33.2	-0.7	36.7	13	25.2	-0.7	22.3	18	21.2	96.3	-25.1	18.8	18	11	+2.0	18.6	12.4	-2.7	0	12	0	0	0	0	0	0	0	0	0	0	0			
Gannavaram	31.8	..	35.7	13	24.9	..	22.5	..	54.4	381.9	..	55.4	4	17	..	25.1	18.0	..	1	22	0	0	5	0	0	0	0	0	0	0	0			
Musulipatam	31.9	-1.7	35.6	3	25.2	-0.4	20.6	16	41.2	333.1	+170.8	55.4	4	16	+5.3	16.1	13.1	+2.5	0	19	0	0	6	0	0	0	0	0	0	0	0			
Nidadavolu	30.0	..	34.8	12	24.7	..	21.9	15	41.8	279.6	..	83.0	23	18	..	18.1	14.7	..	0	21	0	0	5	0	0	0	0	0	0	0	0			
Kakinada	31.5	-0.9	35.1	12	24.9	-0.9	22.8	3	72.4	278.3	+111.9	60.4	23	16	+4.9	17.2	14.7	+5.4	0	18	0	0	2	0	0	0	0	0	0	0	0			
Vilupattanam	32.4	-0.7	36.3	12	24.3	-1.1	22.0	28	63.4	241.1	+131.8	101.1	18	13	+4.5	21.3	17.4	+2.1	0	18	0	0	6	0	0	0	0	0	0	0	0			
Chingapatam	..	..	..	..	..	..	..	..	82.2	115.7	+15.0	38.8	18	11	+2.4	..	..	..	0	14	0	0	2	0	0	0	0	0	0	0	0	
Telangana																																		
Ramagundam	31.5	..	35.8	3,14	23.4	..	21.2	19	141.9	455.4	..	115.2	24	13	..	10.3	9.2	..	0	23	0	0	2	0	0	0	0	0	0	0	0			
Nizamabad	30.3	-0.9	31.9	3	25.3	0	20.8	1	77.9	408.2	+150.4	56.2	17	15	0	13.2	10.5	+1.6	0	20	0	0	0	0	0	0	0	0	0	0	0	0		
Mahbubnagar	29.5	..	33.5	16	22.1	..	21.1	5	112.7	266.3	..	72.1	5	16	..	16.1	14.6	..	0	25	0	0	0	0	0	0	0	0	0	0	0	0		
Hyderabad (Beyumpet Aerodrome)	29.2	-1.2	33.0	3	22.2	0	21.2	5,19	50.8	209.5	+57.4	34.2	22	12	+0.9	30.5	26.8	+6.4	0	16	0	0	1	0	0	0	0	0	0	3	0			
Hakimpet	27.9	..	32.7	3	21.4	..	19.4	27	40.0	216.4	..	37.9	22	13	..	..	..	..	0	18	0	0	2	0	0	0	0	0	0	0	0	
Hanamkonda	31.2	0	37.6	14	24.0	-0.3	21.2	4	98.6	370.6	+138.4	101.0	18	15	+1.6	17.2	13.7	+2.9	0	19	0	0	0	0	0	0	0	0	0	0	0	0		
Bhadrachallam	31.4	..	35.8	13	21.6	..	22.1	4	100.8	324.5	..	50.3	24	16	..	13.6	9.5	..	2	18	0	0	0	0	0	0	0	0	0	0	0	0		
Khammameth	31.8	..	35.6	3	24.4	..	20.5	21	88.7	357.2	..	94.3	23	13	..	15.3	11.2	..	0	15	0	0	0	0	0	0	0	0	0	0	0	0		
Rayalaseema																																		
Arongyavaram	29.6	..	32.3	15,16	21.7	..	20.4	5,25	16.6	29.6	..	10.4	5	5	..	19.6	15.5	..	0	10	0	0	0	0	0	0	0	0	0	0	0	0		
Cuddapah	32.9	-2.4	36.2	3	25.0	-0.6	23.0	5	80.0	136.0	+32.6	51.2	23	7	+0.3	9.7	7.4	-4.5	0	19	0	0	0	0	0	0	0	0	0	0	0	0		
Anantapur	31.3	..	34.4	16	23.6	..	21.9	5	36.6	65.6	-1.2	39.2	13	3	-0.9	25.0 (b)	19.7 (b)	..	1	5	0	0	1	0	0	0	0	0	0	0	0	0		
Surnool	31.5	-1.6	35.9	17	23.1	-0.5	21.9	18	79.2	194.5	+82.2	59.6	5	11	+1.7	9.8 (a)	9.5 (a)	..	0	14	0	0	0	0	0	0	0	0	0	0	0	0		
Madras State																																		
Palayamcottai	33.8	..	36.3	31	25.6	..	22.5	23	0.8	4.0	-4.4	3.0	23	1	+0.4	22.0	16.3	..	0	2	0	0	0	0	0	0	0	0	0	0	0	0		
Tuticorin	34.5	..	37.5	29	26.3	..	23.5	23	2.0	2.0	..	2.0	..	0	..	25.3	21.2	..	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
Pomban	31.4	-0.4	33.9	16	26.5	+0.2	20.7	31	0	0	-11.7	0	..	0	-0.8	15.6	14.7	-0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Tondi	33.9	..	37.1	9	26.3	..	24.8	1	1.2	5.6	..	2.6	1	1	..	18.7	13.4	..	0	3	0	0	0	0	0	0	0	0	0	0	0	0		
Mathurai	35.2	-0.3	38.4	16	24.8	0.4	22.7	1	4.8	9.4	-40.1	7.0	30	1	-1.7	..	..	..	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Mathurai (Aerodrome)	35.2	..	38.1	31	26.3	..	22.8	18	1.4	6.8	..	3.3	1	1	..	..	..	..	1	4	0	0	1	0	0	0	0	0	0	0	0	0
Nagapattinam	35.8	+0.2	38.0	12,13,16	26.5	+0.4	25.5	4	2.4	5.7	-37.5	3.0	1	1	-1.9	15.8	13.1	+3.4	0	3	0	0	1	0	0	0	0	0	0	0	0	0		
Tiruchirapalli	35.5	-0.1	37.7	16,29,31	26.1	+0.4	24.7	4	0.2	0.4	-33.9	0.2	4,7	0	-2.1	40.9	34.9	+4.8	2	0	0	0	0	0	0	0	12	0	0	0	0	0		
Chennai	26.6	-3.8	29.9	16	21.5	-0.2	20.6	10	25.1	114.0	+72.1	29.0	1	13	+8.3	21.4	18.2	+7.6	0	21	0	0	0	0	0	0	0	0	0	0	0	0		
Coimbatore (Peelamedu Aerodrome)	28.9	..	32.1	16	21.2	..	19.8	26	11.8	88.1	..	36.1	1	5	..	39.6	32.7	..	2	16	0	0	0	0	0	0	0	3	0	0	0	0		
Salem	32.6	-1.3	36.3	31	23.4	+0.1	22.0	5	27.0	43.2	-53.1	13.0	4	3	-4.1	11.8	9.5	+2.7	1	10	0	0	1	0	0	0	0	0	0	0	0	0		
Kallakurichi	35.0	..	38.1	27	..	..	..	..	2.8	48.3	..	29.2	30	4	..	14.6	12.6	..	0	6	0	0	1	0	0	0	0	0	0	0	0	0
Cuddalore	36.4	+0.8	38.9	12	25.0	0.9	20.9	30	1.3	30.0	-36.0	17.4	30	3	-2.3	10.9	8.6	+1.2	0	5	0	0	1	0	0	0	0	0	0	0	0	0		
Tirupattur	32.7	..	36.1	30	23.1	..	20.5	4	0	2.0	..	2.0	1	0	..	11.7	6.6	..	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
Vellore	33.9	-0.6	36.8	31	25.6	+0.5	22.1	18	52.8	56.4	-59.2	37.2	18	3	-3.3	20.2	13.7	+5.7	0	5	0	0	2	0	0	0	0	0	0	0	0	0		
Tambaram (Aerodrome)	..	..	..	..	25.8	..	23.9	14	24.9	54.0	..	16.0	3	6	..	..	..	..	0	13	0	0	5	0	0	0	0	0	0	0	0	0
Madras	34.2	-1.5	36.5	30	25.7	-0.6	21.5	3	35.2	123.1	+32.0	23.8	3	8	+1.2	18.0	13.7	-2.1	2	11	0	0	7	0	0	0	0	0	0	0	0	0		
Madras (Nungambakkam)	34.6	..	37.7	12	25.8	..	22.4	3	..	66.1	..	16.4	30	6	..	..	7.0	..	3	11	0	0	7	0	0	0	0	0	0	0	0	0
Coastal Mysore																																		
Karwar	28.6	..	31.0	27	23.9	..	22.2	19	468.2	1464.6	+497.9	216.4	18	31	+4.0	24.5	24.4	..	0	31	0	0	0	0	0	0	0	0	0	0	0	0		
Honavar	27.9	-0.4	30.0	3	23.0	-0.6	724.9	1751.8	+623.8	270.0	18	31	+1.4	16.0	15.5	+9.2	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mangalore	28.9	+0.2	35.6	9	23.0	-0.5	21.5	19	487.8	1360.6	+372.5	191.2	18	29	+1.5	12.1	11.7	+2.7	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mangalore (Bajpe Aerodrome)	27.2	..	29.6	4	22.3	..	21.2	18	720.4	1813.2	..	231.2	5	30	..	12.6	10.8	..	1	30	0	0	3	2	0	0	0	0	0	0	0	0	0	
Interior Mysore (North)																																		
Bidar	28.4	-0.9	32.3	15	21.1	0	20.2	5	42.9	212.8	+6.8	38.4	4	13	+1.4	28.2	24.9	+2.7	0	20	0	0	1	0	0	0	0	0	0	0	0	0	0	
Gulbarga	30.5	-1.4	34.4	4	21.8	-0.4	18.1	25	25.8	84.8	-59.0	36.0	5	9	-0.1	24.0	21.9	+4.8	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bijapur	29.5	-0.8	33.2	17	21.9	+0.3	20.7	5	27.0	62.4	+2.2	28.2	5	6	+1.7	15.6	14.7	-0.4	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgaum	24.3	-1.0	26.5	9	20.3	+1.0	19.3	13	223.5	709.1	+282.6	72.2	20	29	+6.9	16.7	13.4	-0.9	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgaum (Sambre Aerodrome)	..	..	..	..	..	..	..	..	159.0	441.5	..	51.4	5	27	..	..	..	..												

Division and station	Air temperature in °C								Rainfall in millimetres				No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation 0.1 and 0.2 mm.	Precipitation (0.3 mm. and more)	Snow or sleet	Hail	Thunder heard	Fog	Dust storm	Ground frost	Gale	Squall	Line squall	
																														20a
Ceylon—contd.																														
Trincomalee . . .	34.2	+0.8	36.6	26	26.3	+1.0	25.0	31	7.6	10.6	-31.9	8.1	31	2	-0.3	0	2	0	0	2	0	0	0	0	0	0	0
Batticaloa . . .	34.4	..	36.7	6.7	25.5	..	23.9	25	0	0	..	0	..	0	0	0	0	0	2	0	0	0	0	0	0	
Hambantota . . .	30.9	0	34.1	26	25.1	+0.5	22.3	17	9.2	30.0	-24.1	25.9	17	2	-2.2	0	4	0	0	0	0	0	0	0	0	0	
Mannar . . .	31.0	..	31.9	15	26.9	..	25.6	28	0	0	..	0	..	0	0	0	0	0	0	0	0	0	0	0	0	
Hydrometeorological Observatories.																														
Damodar Catchment.																														
Bokaro . . .	31.4	..	35.2	9	25.1	..	23.1	10	132.1	375.4	..	61.8	9	19	..	11.6	10.1	..	0	23	0	0	14	0	0	0	0	0	0	
Hazaribagh . . .	29.0	..	32.8	9	23.1	..	21.7	11	148.9	393.1	..	60.6	11	20	..	5.6	3.3	..	0	25	0	0	4	0	0	0	0	0	0	
Tilaiya . . .	30.9	..	35.2	9	25.4	..	22.8	10	83.3	315.0	..	105.4	10	13	..	13.2	12.2	..	0	20	0	0	11	0	0	0	0	0	0	
Ramgarh . . .	31.4	..	35.7	16	24.8	..	22.2	15	..	377.1	..	60.3	30	20	..	4.6	3.3	..	0	21	0	0	0	0	0	0	0	0	0	
Panchet Hills . . .	32.2	..	36.6	16	26.4	..	23.9	12	138.5	341.8	..	73.5	14	17	..	11.7	10.1	..	0	21	0	0	3	0	0	0	0	0	0	
Durgapur . . .	32.6	..	36.6	9	25.6	..	23.9	11	..	237.0	..	84.0	29	17	..	14.7	10.4	..	0	23	0	0	3	0	0	0	0	0	0	
Mahanadi Catchment.																														
Baramul . . .	31.2	..	34.2	8	25.2	..	23.7	4,29,30	250.8	430.5	..	55.0	23	19	..	3.4	2.9	..	0	23	0	0	16	0	0	0	0	0	0	
Hirakud . . .	31.7	..	35.3	18	25.5	..	23.2	29	188.9	531.6	..	134.2	20	17	..	7.8	6.0	..	0	23	0	0	11	0	0	0	0	0	0	
Khijrawan . . .	29.3	..	32.2	14	23.8	..	22.1	28	0	269.3	16	..	14.1	10.4	..	0	19	0	0	0	0	0	0	0	0	0	
Sonepur . . .	31.8	..	34.3	15	24.4	..	21.5	15,16	..	242.3	..	50.0	22	15	..	..	9.2	..	2	21	..	..	..	..	..	..	..	..
Ginabhar . . .	30.3	..	34.4	20	23.5	..	22.1	30	..	416.2	..	62.9	20	18	..	..	..	..	0	19	..	..	..	..	..	..	..	..
Bhimkund . . .	30.3	..	33.3	3	23.8	..	21.1	9,10	356.3	484.1	..	100.3	23	18	..	4.5	2.9	..	0	23	0	0	15	0	0	0	0	0	0	
Narbada Catchment.																														
Punasa . . .	30.2	..	33.6	5,9,12	23.3	..	20.1	13	177.3	609.5	..	183.6	13	20	0	25	0	0	0	0	0	0	0	0	0	
Bagra Tawa . . .	29.3	..	34.3	4	24.0	..	22.2	14	331.2	870.3	..	231.2	13	18	..	10.3	8.5	..	0	24	0	0	3	0	0	0	0	0	0	
Thikri . . .	31.4	..	37.0	21	24.2	..	19.6	15	..	375.2	..	116.0	1	14	1	20	0	0	0	0	0	0	0	0	0	
Sabarmati Catchment.																														
Jhadol . . .	28.8	..	32.5	25	20.7	..	11.6	2	..	75.7	..	9.0	30	10	0	17	0	0	0	0	0	0	0	0	0	
Dharoi . . .	31.4	..	35.3	25	25.1	..	23.3	27	301.3	722.8	..	299.8	27	17	..	..	..	..	0	17	..	..	..	..	..	..	..	..
Ganga Catchment.																														
Mukhm . . .	23.1	..	26.4	1,17	17.0	..	15.7	26	76.9	504.8	..	67.3	1	27	..	..	..	..	1	28	..	..	..	..	..	..	..	..
Tehri . . .	32.9	..	37.7	1	23.2	..	21.2	7	54.7	380.9	..	53.8	21	16	..	4.3	2.9	..	0	20	0	0	3	0	0	0	0	0	0	
Gandak Catchment.																														
Gorkha . . .	..	..	..	..	..	..	..	..	22.4	109.6	..	85.6	26	19	..	..	..	..	0	23	..	..	..	..	..	..	..	..
Pokhara . . .	29.5	..	31.8	16	21.9	..	20.8	11,23	74.4	607.9	..	125.5	17	24	..	..	..	..	0	27	..	..	..	..	..	..	..	..
Nawakot . . .	29.6	..	32.0	16	21.5	..	19.6	14	103.5	499.7	..	81.8	17	22	..	..	..	..	0	28	..	..	..	..	..	..	..	..
Jomosom . . .	23.6	..	26.5	16	..	..	..	..	0	48.3	..	17.5	28	6	..	..	..	..	0	9	..	..	..	..	..	..	..	..
Timure . . .	25.6	..	27.6	19	17.6	..	16.3	15	3.8	288.9	..	24.2	1	24	..	..	..	..	0	24	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region).																														
Dailekh . . .	25.7	..	28.3	17	20.1	..	18.7	10	207.3	545.0	..	113.3	17	23	..	..	..	..	0	29	..	..	..	..	..	..	..	..
Gogra Catchment.																														
Dandeldhura . . .	22.7	..	26.6	1	16.7	..	14.9	8	227.7	521.4	..	107.5	7	24	..	..	..	..	0	25	..	..	..	..	..	..	..	..
Munsiyari . . .	..	..	..	..	..	..	..	..	..	541.4	..	60.0	6	26	..	..	..	..	0	27	..	..	..	..	..	..	..	..
Butwal . . .	32.7	..	36.1	16	24.8	..	22.7	12	101.3	536.1	..	177.8	17	13	..	..	..	..	0	20	..	..	..	..	..	..	..	..
Bagmati Catchment.																														
Katmandu† . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

†Data included under "Hill stations".

(g) Mean of 24 days.

(h) Mean of 23 days.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer, cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Cloud amount (Oktas)			Wind speed (km. p. h.)	No. of observations													
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point			Departure from normal	Mean amount	Departure from normal		Mean wind speed, km. per hour	Wind direction												
																62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Uttar Pradesh (East)																												
<i>—Contd.</i>																												
Kanpur (Aerodrome)	0530	126	997.8	983.4	..	27.4	25.7	24.9	31.4	88	..	6.2	..	..	0	3	26	4	1	11	5	2	2	3	1	2	0
	0830	"	998.9	984.5	..	29.1	26.1	24.8	30.8	78	..	6.6	..	..	0	14	16	2	2	11	6	1	1	4	3	1	0
	1130	"	998.4	984.5	..	32.1	26.5	24.4	30.4	67	..	6.7	..	..	0	15	16	1	1	12	6	3	0	4	4	0	0
	1730	"	996.1	981.7	..	31.7	26.5	24.3	27.0	67	..	6.1	..	..	0	8	23	3	1	8	7	2	1	6	3	0	0
	2330	"	998.5	984.1	..	28.6	26.5	25.0	33.2	81	..	5.1	..	..	0	2	29	2	3	11	6	2	3	3	1	0	0
Lucknow	0830	111	999.6	987.2	+0.9	28.5	26.2	25.3	32.3	84	+5	6.9	+0.2	4.6	0	0	26	1	0	19	1	3	0	2	0	5	0	
	1730	"	995.4	984.2	..	31.6	27.5	25.6	33.3	71	..	5.4	..	4.4	0	0	28	2	1	19	1	1	0	4	0	3	0	
Lucknow (Amausi Aerodrome)	0230	128	997.4	983.1	..	27.3	25.9	25.3	32.2	89	..	4.9	..	8.4	0	6	16	0	6	10	2	2	1	1	0	9	0	
	0530	"	997.6	983.3	..	26.6	25.5	25.1	31.9	92	..	6.4	..	11.1	0	4	21	2	7	9	3	1	1	2	0	6	0	
	0830	"	998.7	984.5	..	28.6	26.3	25.3	33.4	82	+8	6.5	+0.7	17.0	0	12	18	2	1	16	3	2	2	1	3	1	0	
	1130	"	993.6	984.5	..	30.9	26.7	24.9	32.1	72	..	6.6	..	18.3	0	16	13	1	2	13	5	1	2	2	3	2	0	
	1730	"	995.6	981.5	..	31.3	26.7	24.8	31.8	68	..	5.8	..	13.3	0	6	23	2	3	13	3	2	1	1	4	2	0	
Hardoi	0830	142	999.0	983.2	..	28.8	26.3	25.3	32.4	81	..	5.7	..	6.6	0	0	28	2	1	16	3	2	0	4	0	3	0	
	1730	"	995.6	980.0	..	31.7	27.0	25.0	31.7	69	..	5.0	..	5.2	0	0	26	1	1	14	4	0	0	5	1	5	0	
Lakhimpur Kheri	0830	147	999.4	982.9	..	27.9	26.8	26.4	34.4	92	..	5.6	..	4.4	0	0	27	0	0	23	0	0	1	3	0	4	0	
	1730	"	995.7	979.5	..	31.0	28.6	27.8	37.1	84	..	4.8	..	2.6	0	0	20	0	0	17	0	0	0	3	0	11	0	
Bahraich	0830	121	1000.4	986.5	+1.5	28.8	26.1	24.7	31.6	79	-1	6.1	+1.6	12.2	0	3	27	2	0	23	0	0	1	4	0	1	0	
	1730	"	997.0	983.8	..	31.4	26.7	24.7	31.1	69	..	5.8	..	9.4	0	2	29	4	0	19	2	0	1	5	0	0	0	
Uttar Pradesh (West)																												
Orai	0830	141	1000.0	984.4	..	29.3	26.7	25.7	32.7	31	..	6.6	..	5.3	0	0	30	1	1	0	10	2	2	1	13	1	0	
	1730	"	996.0	980.5	..	31.2	27.4	25.5	32.1	74	..	5.8	..	4.4	0	0	31	4	5	2	3	4	5	3	5	0	0	
Jhansi	0830	251	998.3	970.9	-0.5	27.5	25.5	24.6	31.1	84	+8	6.5	+1.8	3.0	0	0	21	2	1	0	4	0	0	10	4	10	0	
	1730	"	996.1	968.6	..	30.1	27.5	26.7	34.5	82	..	6.2	..	2.5	0	0	22	3	1	0	6	0	0	5	7	9	0	
Agra	0830	169	998.6	979.9	+0.2	28.9	26.6	25.6	33.2	83	+9	5.6	+0.3	1.1	0	0	8	0	2	2	1	0	2	1	0	23	0	
	1730	"	995.5	977.0	..	31.5	26.9	25.1	32.5	71	..	5.1	..	0.6	0	0	6	0	0	2	2	0	0	2	0	25	0	
Agra (Aerodrome)	0530	163	997.4	978.6	..	27.2	25.6	25.0	31.4	89	..	5.9	..	..	0	3	24	1	7	8	2	1	7	1	0	4	0
	0830	"	998.6	979.8	..	28.9	26.3	25.1	32.1	79	..	6.4	..	..	0	6	25	1	7	8	2	2	9	2	0	0	0
	1130	"	996.5	979.8	..	31.7	26.9	24.5	31.7	69	..	6.2	..	..	0	6	23	1	3	12	1	2	4	4	2	2	0
	1730	"	995.6	976.9	..	32.2	26.9	24.6	30.9	66	..	5.6	..	..	0	9	19	1	5	10	4	3	3	2	0	3	0
	2330	"	998.9	979.2	..	28.4	26.3	25.4	32.0	85	..	4.7	..	..	0	1	26	0	2	12	3	2	7	0	1	4	0
Mainpuri	0830	157	997.7	980.5	-0.6	29.3	26.2	24.9	31.9	78	+2	5.8	+0.5	..	0	0	24	0	0	15	2	0	3	4	0	7	0	
	1730	"	995.2	977.7	..	31.9	26.7	24.9	31.2	68	..	5.8	..	..	0	0	26	0	0	17	1	0	4	3	1	5	0
Aligarh	0830	187	998.7	978.0	..	29.4	26.0	24.5	31.1	75	-3	6.2	+1.4	4.4	0	0	29	1	0	19	0	2	0	7	0	2	0	
	1730	"	995.5	975.0	..	32.6	26.3	23.7	29.2	60	..	5.8	..	3.7	0	0	27	1	0	17	0	5	0	4	0	4	0	
Bareilly	0830	173	999.1	979.9	+0.3	28.5	25.9	24.6	30.5	81	-1	6.3	+0.5	7.4	0	1	27	1	1	15	8	1	0	2	0	3	0	
	1730	"	995.8	976.5	..	31.6	26.4	24.3	30.9	67	..	6.7	..	3.1	0	0	19	0	0	16	0	0	1	2	0	12	0	
Bareilly (P.B.O.)	0230	172	997.8	978.7	..	27.9	25.4	24.3	30.2	82	..	4.8	..	7.8	0	0	28	2	1	18	5	0	0	1	1	3	0	
	0530	"	997.9	978.7	..	27.4	25.4	24.5	29.9	85	..	6.6	..	7.8	0	1	28	0	3	22	1	0	0	2	1	2	0	
	1130	"	999.0	980.0	..	30.7	26.6	25.2	31.0	74	..	6.8	..	10.3	0	2	29	0	2	14	10	0	0	4	1	0	0	
	2330	"	993.3	979.2	..	28.8	26.0	25.0	31.6	81	..	4.4	..	5.6	0	0	21	0	2	16	3	0	0	0	0	10	0	
Meerut	0830	222	999.1	974.6	+0.6	29.8	26.7	25.2	32.5	78	+3	4.9	-0.2	4.8	0	0	25	0	2	17	2	0	0	4	0	6	0	
	1730	"	999.6	969.7	..	28.4	25.8	24.5	30.5	81	..	4.0	..	5.5	0	0	27	0	2	3	19	0	0	0	3	4	0	
Najibabad	0830	270	996.7	967.3	..	31.6	26.5	24.3	30.9	67	..	3.7	..	5.2	0	0	27	0	4	0	17	0	0	0	6	4	0	
	1730	"	996.7	967.3	..	31.6	26.5	24.3	30.9	67	..	3.7	..	5.2	0	0	27	0	4	0	17	0	0	0	6	4	0	
Roorkee	0830	274	999.2	969.0	+0.5	28.4	25.6	24.3	30.5	79	+1	5.2	+0.1	2.0	0	0	21	0	1	0	17	2	0	0	3	10	0	
	1730	"	996.0	966.2	..	31.7	26.6	24.4	30.9	67	..	4.7	..	1.5	0	0	14	0	0	0	11	0	0	0	3	17	0	
Dehra Dun	0530	682	999.0	924.6	..	23.8	22.9	22.5	27.6	90	..	6.6	..	2.0	0	0	15	6	5	1	1	1	0	0	1	16	0	
	0830	"	999.6	925.7	+0.7	25.5	23.6	22.9	27.7	86	+2	6.3	+0.1	1.6	0	0	16	2	2	1	2	4	1	4	0	15	0	
	1130	"	999.6	925.9	..	27.3	24.2	23.0	27.9	78	..	6.7	..	4.5	0	0	29	0	2	1	0	6	7	3	0	2	0	
	1730	"	996.6	923.2	..	27.6	24.3	23.0	28.2	77	..	5.5	..	2.2	0	0	21	5	1	1	2	5	0	3	4	10	0	
	2330	"	999.2	925.2	..	25.4	23.8	23.2	28.4	88	..	5.8	..	3.5	0	0	22											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer sight above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (Km.p.h.)			No. of observations									
			At mean sea level or height in gpm. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
			4	5	6	7	8	9				10	11		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Punjab (India) (Including Delhi)—Contd. New Delhi (Palam Aerodrome)	0230	233	997.1	971.3	..	28.5	26.0	25.0	31.7	78	..	4.3	..	..	0	2	26	0	2	15	4	4	1	2	0	3	0
	0530	"	997.1	971.4	..	27.6	25.8	24.9	31.8	86	..	5.2	..	..	0	2	27	0	2	16	4	2	1	3	1	2	0
	0830	"	998.5	972.8	..	29.7	26.5	25.1	32.1	78	..	5.6	..	..	0	10	21	0	2	13	8	3	0	5	0	0	0
	1130	"	998.2	972.9	..	32.6	27.1	24.7	31.4	65	..	5.7	..	..	0	11	20	0	2	11	7	1	2	5	3	0	0
	1430	"	996.2	971.2	..	34.2	27.5	25.0	31.4	60	..	6.0	..	..	0	15	16	0	0	13	6	3	0	5	4	0	0
	1730	"	994.9	969.6	..	33.6	27.2	24.6	31.2	61	..	5.6	..	..	0	7	24	1	0	14	7	3	0	3	3	0	0
Hissar	2030	"	996.2	970.7	..	30.9	26.9	25.1	32.3	72	..	4.8	..	..	0	3	26	1	2	14	7	2	1	1	1	2	0
	2330	"	997.7	971.9	..	29.4	26.4	25.2	33.5	78	..	4.0	..	..	0	1	30	0	2	13	7	5	1	2	1	0	0
	0530	221	997.2	972.7	..	28.1	25.2	24.0	30.5	79	..	4.0	..	5.6	0	1	23	0	1	7	7	4	2	2	1	7	0
	0830	"	998.0	973.7	+0.2	30.2	26.3	24.7	30.7	73	+6	4.4	+1.6	8.7	0	1	29	0	1	5	7	9	4	4	0	1	0
	1130	"	998.0	973.9	..	34.2	27.4	24.5	31.9	58	..	4.2	..	6.7	0	2	26	0	1	4	11	2	3	3	4	3	0
Karnal	1730	"	994.5	970.7	..	35.2	27.1	23.6	28.9	55	..	4.3	..	8.1	0	1	27	0	2	8	7	5	2	3	1	3	0
	2330	"	997.3	973.1	..	30.2	25.9	23.6	27.8	70	..	2.2	..	4.2	0	0	17	1	1	3	7	5	0	0	0	14	0
Patiala	0830	249	998.5	970.6	..	27.7	25.5	24.5	30.9	83	..	4.2	..	1.2	0	0	7	0	1	0	6	0	0	0	0	24	0
	1730	"	995.6	968.4	..	32.9	27.5	25.2	32.0	66	..	4.1	..	1.2	0	0	6	0	0	0	5	0	0	0	1	25	0
Ambala	0830	251	998.6	970.9	..	29.2	25.6	23.9	29.8	75	..	4.9	..	7.5	0	0	26	0	1	0	22	0	0	0	3	5	0
	1730	"	995.4	968.2	..	33.0	26.5	23.6	29.2	60	..	5.9	..	8.8	0	1	27	0	0	1	20	0	0	0	7	3	0
Ambala (P.B.O.)	0830	272	998.6	968.5	+0.2	28.6	27.1	26.5	34.4	89	+13	2.6	-2.2	1.5	0	0	12	0	1	0	6	0	4	0	1	19	0
	1730	"	995.3	965.9	..	33.0	29.4	27.9	37.5	77	..	1.4	..	2.0	0	0	19	0	0	0	19	0	0	0	0	12	0
Chandigarh	0230	278	997.2	966.7	..	28.4	25.5	24.5	30.5	80	..	4.7	..	8.9	0	0	29	1	1	3	19	1	0	2	2	2	0
	0530	"	997.3	966.6	..	27.4	25.0	24.2	29.1	83	..	5.6	..	9.0	0	0	28	0	1	1	22	0	1	1	2	3	0
	1130	"	998.6	968.2	..	31.0	26.2	24.5	30.5	70	..	5.7	..	10.6	0	3	26	1	5	1	19	1	0	0	2	2	0
	2330	"	997.7	967.1	..	28.9	25.8	24.8	30.8	79	..	4.1	..	9.1	0	0	23	1	3	3	19	0	1	0	1	3	0
Ludhiana	0530	273	997.4	967.1	..	26.2	25.1	24.3	30.8	88	..	5.6	..	..	0	5	22	0	1	14	7	0	0	3	2	4	0
	0830	"	998.6	968.2	..	28.0	25.7	24.6	31.8	82	..	5.9	..	..	0	9	20	0	1	15	9	0	1	0	3	2	0
	1130	"	998.5	968.5	..	30.5	26.7	25.1	31.8	74	..	5.6	..	..	0	9	19	1	1	12	10	0	0	1	3	3	0
	1730	"	995.6	965.5	..	32.2	26.7	24.8	30.4	66	..	5.2	..	..	0	9	21	1	1	11	11	1	0	0	5	1	0
Bhatinda	2330	"	997.6	967.3	..	28.1	25.9	25.0	31.9	84	..	4.3	..	..	0	5	21	0	4	11	7	0	0	0	4	5	0
	0830	347	998.2	960.3	..	28.6	25.4	24.1	29.7	77	..	4.5	..	..	0	0	25	6	2	3	17	1	0	1	1	6	0
Ferozepur	1730	"	995.3	957.8	..	32.0	26.6	24.4	30.9	65	..	3.0	..	..	0	0	27	0	5	1	17	0	0	1	3	4	0
	0830	247	998.5	971.4	+0.6	30.2	26.1	24.2	29.9	71	-1	3.9	0	2.0	0	0	14	0	1	0	13	0	0	0	0	17	0
Halwara (Aerodrome)	1730	"	995.3	968.5	..	33.7	26.8	23.9	29.4	58	..	3.1	..	1.1	0	0	11	0	4	0	6	0	0	0	1	20	0
	0830	240	999.0	972.4	..	29.6	26.1	24.6	31.1	75	..	4.5	..	..	0	11	20	0	3	3	20	2	0	1	2	0	0
Pathankot	1730	"	996.6	970.4	..	33.7	26.8	23.8	29.3	59	..	4.5	..	..	0	8	23	6	4	3	12	1	1	1	3	0	0
	0830	..	..	..	..	31.0	26.5	24.6	31.8	71	..	3.2	..	14.2	0	5	25	1	1	4	10	6	5	2	1	1	0
Amritsar	1730	..	..	..	..	34.8	26.8	22.9	28.9	53	..	3.4	..	13.9	0	5	26	0	5	11	4	2	5	2	2	0	0
	0830	200	996.4	974.4	..	30.4	27.4	26.6	34.0	79	..	2.7	..	1.9	0	0	19	0	3	1	10	0	3	0	2	12	0
Pathankot (Aerodrome)	1730	"	993.4	971.8	..	34.1	29.0	26.9	35.7	69	..	3.4	..	1.5	0	0	15	0	4	1	4	0	1	0	5	16	0
	0530	234	997.3	971.4	..	26.6	25.2	24.5	31.1	86	..	4.3	..	8.3	0	0	30	0	2	17	8	1	1	1	0	1	0
	0830	"	998.3	972.5	..	28.9	25.8	24.4	30.8	77	..	4.1	..	13.8	0	4	24	1	2	10	7	3	0	1	3	3	1
	1130	"	998.6	973.0	..	31.8	26.6	24.5	30.1	66	..	4.3	..	2.9	0	4	27	1	5	9	6	4	3	1	0	0	2
Mandi	1730	"	995.2	969.8	..	32.7	26.9	24.5	30.8	64	..	3.9	..	11.0	0	2	29	3	4	9	6	2	1	2	3	0	1
	0830	344	999.5	961.6	..	27.4	25.1	24.1	29.9	83	..	6.4	..	1.7	0	0	10	1	5	1	1	1	0	1	0	21	0
	1730	"	997.2	959.9	..	31.8	26.8	24.7	30.9	68	..	4.6	..	2.6	0	0	21	1	4	1	1	4	1	7	2	10	0
	0830	312	999.1	964.7	..	27.6	24.9	23.8	29.4	80	..	6.5	..	4.4	0	0	30	2	11	6	6	3	0	1	1	1	0
Jammu and Kashmir Srinagar	1130	"	999.1	965.0	..	29.9	25.6	23.7	29.5	71	..	6.2	..	5.5	0	1	29	0	8	4	3	3	6	4	2	1	0
	1730	"	995.7	961.9	..	31.7	26.2	23.6	29.3	64	..	5.0	..	4.5	0	0	31	5	4	0	7	1	4	4	6	0	0
	0530	233	996.6	970.4	..	26.6	25.4	24.9	30.8	91	..	5.1	..	..	0	2	22	1	2	5	14	1	0	0	1	7	0
	0830	"	997.7	971.3	..	29.5	26.7	25.5	32.7	80	..	5.1	..	..	0	3	26	1	0	3	19	2	1	0	3	2	0
Himachal Pradesh Bilaspur	1130	"	997.8	971.6	..	31.8	27.5	25.7	32.5	71	..	5.6	..	..	0	6	25	1	1	2	19	3	1	2	2	0	0
	1730	"	995.2	969.2	..	32.4	27.2	25.6	32.1	69	..	5.4	..														

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (K.m. p. h.)			No. of observations										
			At mean sea level or height in gpm of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Jammu and Kashmir—Contd.																												
Srinagar—Contd.	1730	1587	1394.5	831.9	..	27.0	20.4	17.2	18.9	57	..	4.0	..	2.6	0	0	16	4	0	0	1	0	1	5	5	15	0	
	*2330	"	1417.7	833.8	..	22.4	19.6	18.2	21.0	78	..	3.2	..	2.8	0	0	10	0	2	0	3	0	0	2	3	13	0	
Srinagar (Aerodrome)	0530	1665	1416.6	826.2	..	18.4	16.8	15.3	17.6	86	..	5.2	..	..	0	0	21	1	1	1	1	4	3	4	6	10	0	
	0830	"	1422.3	827.1	..	21.4	18.3	16.7	17.4	76	..	4.9	..	..	0	0	22	4	1	1	7	4	1	1	3	9	0	
	1130	"	1420.0	827.0	..	23.8	19.1	16.7	18.3	66	..	4.9	..	..	0	2	21	3	3	2	6	3	1	1	4	8	0	
	1730	"	1391.9	824.6	..	26.2	19.1	15.5	16.0	54	..	4.6	..	..	0	1	28	7	4	2	2	5	2	1	6	2	0	
Gulmarg	0830	2655	3082.0	736.3	+0.2	16.4	14.0	12.3	14.3	78	+4	4.4	+0.6	1.6	0	0	15	2	8	4	0	0	0	1	0	16	0	
	1730	"	3070.2	735.1	..	17.5	15.3	14.0	15.9	81	..	4.8	..	2.5	0	0	22	0	10	5	2	0	1	4	0	9	0	
Leh	+0530	3514	3049.6	663.3	..	11.9	5.9	-2.0	5.8	47	..	4.3	..	2.7	0	0	16	9	6	0	1	0	0	0	0	14	0	
	0830	"	3065.4	661.2	-0.1	15.7	8.1	0.8	6.2	38	-15	4.1	+0.4	0.1	0	0	1	0	0	0	0	1	0	0	0	30	0	
	1730	"	3018.7	661.6	..	21.1	11.3	3.0	7.6	33	..	3.9	..	6.3	0	0	27	2	3	0	0	1	3	16	2	4	0	
Skardu (R)	0830	2288	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(R)	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gilgit (R)	0830	1491	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(R)	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Misgar (R)	0830	3106	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(R)	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu (R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu (Aerodrome)	0530	292	998.1	965.4	..	26.3	24.1	23.2	28.5	83	..	5.8	..	..	0	5	21	1	10	6	9	0	0	0	0	5	0	
	0830	"	998.8	966.3	..	27.6	24.6	23.0	28.2	78	..	6.1	..	..	0	1	21	3	7	4	9	0	2	0	0	6	0	
	1130	"	998.3	966.8	..	30.1	25.7	23.7	29.5	70	..	5.4	..	..	0	3	26	3	6	0	10	5	2	2	1	2	0	
	1730	"	995.6	963.8	..	31.5	25.9	23.3	29.3	63	..	5.0	..	..	0	2	27	0	12	1	3	3	1	4	5	2	0	
Rajasthan (West)																												
Sri Ganganagar	0530	177	996.0	976.5	..	28.9	25.2	23.5	29.3	74	..	3.3	..	5.0	0	0	25	0	3	10	6	1	4	1	0	6	0	
	0830	"	997.2	977.8	..	31.3	26.6	23.4	31.2	65	+5	3.2	+1.1	7.6	0	1	28	0	3	2	11	2	8	3	0	2	0	
	1130	"	996.9	977.7	..	35.3	26.9	23.0	28.7	51	..	3.8	..	9.5	0	0	29	1	0	6	7	3	6	4	2	2	0	
	1730	"	993.8	994.7	..	35.6	26.3	22.0	26.9	49	..	4.8	..	5.4	0	0	26	3	4	3	4	3	2	3	4	5	0	
	2330	"	996.1	976.7	..	30.8	25.7	23.4	29.2	68	..	2.8	..	5.2	0	0	25	1	6	8	5	3	2	0	0	6	0	
Churu	0830	241	998.3	966.3	..	29.8	26.2	24.5	31.5	74	..	5.1	..	16.2	0	10	21	2	1	7	2	5	3	8	3	0	0	
	1730	"	994.7	963.4	..	34.9	27.1	23.6	29.7	55	..	5.2	..	16.1	0	8	23	5	1	8	4	2	1	7	3	0	0	
Bikaner	0830	224	997.7	973.0	-0.1	29.9	27.9	27.2	36.3	86	+20	1.4	-1.5	0.9	0	1	29	0	3	0	8	2	7	6	4	1	0	
	1730	"	994.0	970.0	..	35.1	29.4	27.8	36.5	65	..	2.7	..	9.6	0	2	28	0	6	1	7	1	7	2	6	1	0	
Bikaner (P.B.O.)	0530	224	996.4	971.7	..	28.7	26.5	25.7	33.0	84	..	4.0	..	8.6	0	0	28	2	4	2	0	3	10	6	1	3	0	
	1130	"	997.1	972.8	..	34.4	29.3	25.3	33.5	62	..	4.5	..	9.6	0	0	20	1	3	2	3	5	7	4	2	3	1	
	2330	"	996.5	971.9	..	31.1	27.2	25.4	32.9	74	..	3.7	..	10.1	0	1	28	1	3	1	1	10	10	1	2	2	0	
Jaisalmer	0830	242	996.9	970.3	..	29.0	26.0	24.6	30.8	76	..	4.9	..	20.5	0	12	19	3	4	0	0	12	12	0	0	0	0	
	1730	"	993.5	967.4	..	35.5	27.8	24.1	30.9	56	..	4.7	..	23.5 (b)	0	15	16	3	2	0	2	13	10	0	1	0	0	
Phalodi	0830	234	998.3	972.4	..	28.8	25.5	24.1	30.0	77	..	5.3	..	8.0 (b)	0	12	17	2	0	4	3	4	11	5	0	0	0	
	1730	"	995.3	970.2	..	34.6	26.1	21.9	26.2	51	..	5.1	..	20.7 (b)	0	12	16	..	2	2	5	6	12	0	0	1	0	
Nagaur	0830	298	998.2	965.4	..	28.9	24.9	23.1	28.5	72	..	4.8	..	11.7	0	3	26	2	2	2	1	6	11	3	2	2	0	
	1730	"	994.3	962.0	..	33.4	25.3	20.9	24.9	51	..	5.3	..	11.5	0	5	25	1	3	3	2	9	8	4	0	1	0	
Jodhpur	0230	224	997.1	972.2	..	28.1	25.7	24.6	30.8	80	..	4.4	..	10.5	0	4	24	0	2	0	2	3	16	3	0	3	0	
	0530	"	997.3	972.1	..	27.2	25.3	24.4	30.6	84	..	5.5	..	10.5	0	2	26	1	1	2	1	3	13	6	1	3	0	
	0830	"	998.5	973.6	+0.8	28.4	25.6	24.4	30.5	79	+9	6.0	+0.3	13.0	0	5	25	1	2	3	1	4	11	7	1	1	0	
	1130	"	998.3	973.7	..	31.8	26.7	24.0	29.7	64	..	6.1	..	13.8	0	6	23	0	1	2	3	5	11	5	2	2	0	
	1730	"	995.0	970.6	..	33.3	26.8	23.7	30.3	60	..	5.7	..	16.6	0	7	24	0	2	3	2	6	15	2	1	0	0	
	2330	"	998.0	973.2	..	29.1	25.7	24.1	30.4	76	..	4.5	..	11.2	0	3	26	0	2	..	2	3	18	3	0	2	0	
Bartner	0530	194	996.4	975.0	..	26.9	25.4	24.8	31.1	89	..	6.1	..	..	0	0	27	4	1	0	3	10	8	0	1	4	0	
	0830	"	997.8	976.2	-0.7	28.0	25.8	24.8	31.7	83	+7	5.7	+0.3	..	0	0	29	5	0	..	2	11	9	0	1	2	0	
	1130	"	997.7	976.5	..	31.8	26.4	24.0	30.1	64	..	6.1	..	..	0	4	22	0	2	0	6	7	10	1	0	5	0	
	1730																											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (Km.p.h.)			No. of observations										
			At mean sea level or height in ft. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Rajasthan (East)—contd.																												
Sikar	0830	433	998.2	950.9	..	28.1	25.9	24.7	30.7	82	..	6.0	..	5.5	0	0	22	4	0	4	2	2	1	8	1	9	0	
	1730	"	994.4	947.9	..	32.1	27.2	24.8	32.4	68	..	5.5	..	2.1	0	0	20	2	2	1	7	2	2	4	0	11	0	
Jaipur (Sanganer Aerodrome)	0230	390	996.9	953.9	..	26.2	25.0	24.2	30.6	88	..	5.4	..	..	0	4	20	0	5	4	1	2	4	5	3	7	0	
	0530	"	997.0	954.0	..	26.3	24.8	24.2	29.3	89	..	6.5	..	..	0	2	22	2	4	4	2	0	4	5	3	7	0	
	0830	"	998.3	955.2	-1.3	27.5	25.1	24.0	29.5	82	+8	3.3	-1.9	..	0	6	23	0	3	3	1	1	1	11	4	2	0	
	1130	"	998.0	955.4	..	29.9	25.9	24.0	30.7	71	..	6.6	..	..	0	7	23	4	2	6	3	3	3	8	1	1	0	
	1730	"	994.9	952.6	..	30.6	25.8	23.4	29.4	68	..	6.0	..	..	0	6	22	0	3	5	4	3	4	6	3	3	0	
Dholpur	0830	176	998.0	978.5	..	28.5	25.5	24.3	29.7	79	..	6.6	..	5.4	0	0	25	0	1	9	3	3	3	6	0	6	0	
	1730	"	995.0	975.7	..	31.8	26.0	23.3	28.7	63	..	6.2	..	4.5	0	0	24	1	2	7	5	0	3	5	1	7	0	
Tonk	0830	272	997.7	967.6	..	27.4	26.0	25.1	32.2	87	..	6.3	..	12.2	0	1	30	0	1	4	6	1	5	9	4	0	1	
	1730	"	994.0	964.4	..	31.6	27.5	25.5	33.3	74	..	5.9	..	13.5	0	1	30	0	2	2	6	6	3	5	6	0	1	
Ajmer	0830	486	998.6	945.3	-1.0	26.3	23.8	22.6	27.1	81	+7	7.1	+2.3	12.5	0	4	26	1	2	2	2	4	8	11	0	1	0	
	1730	"	995.4	943.0	..	30.4	24.7	22.2	26.4	63	..	6.2	..	10.3	0	0	27	3	2	1	1	2	9	8	1	4	0	
Kota	0530	257	997.4	969.0	..	26.7	24.5	23.9	28.8	85	..	5.8	..	1.9	0	0	14	0	1	0	0	0	4	8	1	17	0	
	0830	"	998.9	970.5	-0.3	27.9	25.2	23.9	29.7	80	+10	6.3	+1.0	4.8	0	0	24	0	2	1	2	1	4	10	4	7	0	
	1130	"	998.6	970.4	..	30.4	26.2	24.5	30.9	71	..	6.6	..	1.5	0	0	13	0	0	0	3	0	2	3	5	18	0	
	1730	"	996.2	968.4	..	31.3	26.3	24.0	29.8	68	..	6.6	..	5.5	0	0	22	0	2	1	0	0	10	1	5	9	0	
	2330	"	998.2	969.9	..	28.2	25.4	23.9	32.5	80	..	5.5	..	1.9	0	0	15	0	0	0	0	1	8	4	2	16	0	
Chambai	0830	351	998.9	960.2	..	26.7	25.1	24.3	30.3	84	..	6.5	..	4.8	0	0	29	2	1	2	1	4	7	7	5	2	0	
	1730	"	995.9	957.6	..	29.5	26.2	24.5	31.1	76	..	6.4	..	8.0	0	0	29	2	2	1	2	5	5	8	4	2	0	
Jhalawar	0830	321	998.9	963.4	-0.9	26.1	24.4	23.4	29.2	83	-2	5.4	-0.9	4.5	0	0	29	1	1	2	1	2	12	9	1	2	0	
	1730	"	995.9	961.0	..	30.3	25.5	23.1	28.8	68	..	4.8	..	4.3	0	0	29	1	2	1	2	2	5	11	5	2	0	
Udaipur	0230	582	997.9	934.5	..	24.5	23.3	22.8	27.9	90	..	6.5	..	3.2	0	0	16	0	0	0	2	3	7	4	0	15	0	
	0530	"	997.8	934.0	..	24.0	23.0	22.6	26.9	88	..	6.8	..	3.2	0	0	15	1	0	0	0	4	8	2	0	16	0	
	0830	"	999.0	935.5	-1.2	25.6	23.7	23.0	27.7	84	+8	6.9	+1.5	5.1	0	0	20	1	1	1	1	3	11	1	1	11	0	
	1130	"	999.0	935.8	..	27.4	24.5	23.3	28.6	79	..	7.1	..	4.0	0	0	21	0	0	1	2	3	9	4	2	10	0	
	1730	"	996.3	933.4	..	27.9	25.0	23.8	29.7	79	..	7.0	..	3.7	0	0	23	0	0	1	2	5	12	2	1	8	0	
Eripura (Jawai Dam)	0830	295	998.6	966.1	..	27.0	24.6	23.3	28.6	79	..	5.9	..	6.1	0	2	23	0	2	0	12	5	5	0	1	6	0	
	1730	"	996.1	963.8	..	30.7	25.9	24.0	29.1	69	..	5.6	..	6.1	0	2	22	1	1	0	6	7	8	1	0	7	0	
Madhya Pradesh (West)																												
Gwalior (P.B.O.)	0230	207	996.9	974.0	..	27.5	25.3	24.3	30.4	84	..	5.2	..	8.6	0	2	24	0	2	7	1	2	7	6	1	5	0	
	0530	"	997.1	974.1	..	26.9	25.0	24.2	30.1	86	..	6.3	..	6.0	0	1	25	3	4	5	2	1	6	4	1	5	0	
	0830	"	998.4	975.5	+0.2	28.5	25.4	24.1	29.9	78	+1	6.5	+0.7	11.3	0	4	26	6	2	5	3	1	6	6	1	1	0	
	1130	"	998.1	975.4	..	30.4	26.0	24.3	30.0	71	..	6.5	..	10.5	0	2	29	3	3	4	7	1	3	7	2	0	1	
	1730	"	995.4	972.8	..	31.0	26.0	23.9	29.6	68	..	6.5	..	9.4	0	1	29	2	5	6	6	0	4	4	3	1	0	
	2330	"	997.8	974.9	..	23.2	25.6	24.4	30.5	81	..	6.0	..	7.7	0	4	20	0	1	6	3	2	6	6	0	7	0	
Sh. opur Kalan	0830	235	998.5	972.4	..	27.9	25.4	24.1	30.4	81	..	6.8	..	9.8	0	0	30	1	1	3	3	4	7	7	4	1	0	
	1730	"	994.8	969.1	..	30.7	26.1	24.3	30.2	70	..	6.9	..	9.4	0	0	30	2	2	4	4	3	3	4	5	1	3	
Guna	0530	478	997.6	944.9	..	24.3	23.3	22.9	27.9	92	..	7.0	..	7.0	0	1	28	0	2	2	2	2	4	15	2	2	0	
	0830	"	999.3	946.4	-0.9	25.3	23.7	23.2	27.9	87	+4	7.4	+1.6	4.8	0	0	29	1	0	4	0	3	3	18	0	2	0	
	1130	"	998.7	946.6	..	27.6	24.5	23.1	28.5	77	..	7.3	..	7.0	0	0	29	1	1	3	2	1	6	10	5	2	0	
	1730	"	995.8	943.9	..	28.2	24.7	23.1	28.5	76	..	7.4	..	7.2	0	0	30	2	0	1	1	6	7	8	5	1	0	
	2330	"	998.7	946.2	..	25.4	23.7	23.0	28.1	87	..	6.2	..	5.7	0	0	23	0	0	2	1	6	6	7	1	8	0	
Raigarh	0830	382	998.7	956.6	..	25.8	23.9	23.1	28.1	85	..	6.4	..	9.7	0	2	26	0	0	1	1	0	5	16	5	3	0	
	1730	"	996.1	954.6	..	28.7	25.0	22.9	28.7	72	..	6.7	..	3.8	0	1	26	3	1	0	0	2	2	17	2	4	0	
Neemuch	0830	496	999.9	945.4	-0.6	24.9	23.4	22.6	27.7	88	+8	7.2	+1.4	11.8	0	5	26	0	1	1	1	1	6	19	2	0	0	
	1730	"	997.1	943.2	..	27.9	24.5	23.0	28.3	76	..	6.8	..	13.1	0	4	27	1	3	1	0	2	9	12	3	0	0	
Ratlam	0830	486	999.9	946.3	..	23.8	23.1	22.6	27.7	93	..	7.7	..	13.9	0	0	30	0	0	0	0	2	12	14	2	1	0	
	1730	"	997.4	944.3	..	27.2	24.4	23.2	28.5	80	..	7.4	..	16.1	0	6	25	0	0	0	0	3	8	15	5	0	0	
Alirajpur	0830	293	1000.9	968.2	..	25.1	23.9	23.4	28.8	90	..	7.4	..	11.3	0	1	30	0	0	1	1	0	10					

Division and station	Hour of observation I.S.T	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobatic level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Madhya Pradesh (West)—contd.																												
Indore—Contd.	1730	567	997.5	935.8	..	26.4	23.5	22.2	26.9	78	..	7.1	..	28.1	1	21	8	0	0	0	0	4	16	9	1	1	0	0
	2330	"	1000.6	938.1	..	23.6	22.6	22.2	26.5	94	..	6.4	..	22.3	0	15	16	0	0	0	0	3	20	7	1	0	0	0
Bhopal (Bairagarh)	0230	523	998.2	940.7	..	24.0	23.9	22.5	27.1	91	..	6.7	..	14.7	0	9	19	0	1	0	0	2	6	14	5	3	0	0
	0530	"	998.5	940.8	..	23.6	23.7	22.2	26.9	92	..	7.2	..	15.6	0	7	22	1	0	0	0	3	6	14	5	2	0	0
	0830	"	999.8	942.3	-1.0	24.6	23.0	22.3	27.0	87	+1	7.3	+0.7	19.4	0	12	19	3	0	0	1	2	7	13	5	0	0	0
	1130	"	999.4	942.4	..	27.0	23.9	22.5	27.5	79	..	7.5	..	19.9	0	12	19	1	0	0	3	0	9	12	6	0	0	0
	1730	"	996.8	939.9	..	27.4	23.9	22.4	27.2	76	..	7.2	..	18.5	0	14	16	1	1	0	1	1	12	9	5	1	0	0
Khandwa	2330	"	999.7	942.2	..	24.5	23.2	22.9	26.5	89	..	6.6	..	12.9	0	4	26	0	0	1	0	5	7	13	4	1	0	0
	0830	318	1000.7	965.5	-1.0	25.8	23.8	22.8	27.3	84	+4	7.4	+1.3	8.4	0	0	31	0	0	0	0	7	10	12	2	0	0	0
Hoshangabad	1730	"	998.1	963.1	..	28.2	24.6	23.1	28.0	73	..	7.6	..	9.6	0	0	30	0	0	0	1	4	14	6	5	1	0	0
	0830	302	1000.3	966.6	-1.1	25.1	23.8	23.1	28.3	89	+3	7.4	+0.5	5.6	0	0	24	0	0	0	0	0	15	9	0	7	0	0
Betul	1730	"	997.4	964.1	..	27.9	24.8	23.4	28.7	78	..	6.9	..	4.2	0	0	25	0	0	0	0	1	12	12	0	6	0	0
	0830	653	1000.9	929.3	..	23.0	21.9	21.3	25.5	91	..	7.4	..	9.0	0	0	30	0	0	0	0	2	7	15	6	1	0	0
Chhindwara	1730	"	998.0	927.1	..	25.5	23.0	21.9	26.3	82	..	7.8	..	9.8	0	2	28	2	0	0	0	2	6	13	7	1	0	0
	0830	685	1000.1	925.3	..	23.8	22.4	21.7	26.2	89	..	7.5	..	12.4	0	1	30	1	2	0	0	1	5	11	11	0	0	0
Seoni	1730	"	997.2	923.2	..	25.9	23.0	21.7	25.9	78	..	7.3	..	12.7	0	1	30	2	1	0	1	0	9	10	8	0	0	0
	0830	619	999.6	931.9	-1.0	24.2	22.8	22.4	26.7	90	+7	7.6	+1.3	5.3	0	0	30	2	0	1	1	3	10	10	3	1	0	0
Sagar	1730	"	996.8	929.8	..	26.0	25.0	22.5	31.0	81	..	7.1	..	4.7	0	0	27	3	1	0	1	4	7	6	4	4	1	0
	0830	551	998.8	938.3	-1.0	24.7	23.3	22.2	27.7	89	-1	6.7	+0.5	14.3	0	7	24	0	2	2	1	0	7	12	7	0	0	0
Nowgong	1730	"	996.0	936.2	..	27.1	24.1	23.1	27.7	79	..	6.7	..	5.3	0	1	29	1	1	3	3	0	4	15	3	1	0	0
	0830	229	998.7	973.4	-0.5	27.7	25.0	24.2	30.7	82	+3	6.7	+0.5	5.4	0	0	30	2	6	4	1	2	10	3	2	1	0	0
	1730	"	995.8	970.7	..	30.3	26.1	24.2	30.7	72	..	6.7	..	5.6	0	0	30	1	7	1	1	1	13	2	4	1	0	0
	Madhya Pradesh (East)																											
Sutna	0530	317	997.1	962.0	..	25.7	24.6	24.0	29.9	90	..	7.0	..	3.3	0	0	15	0	4	2	1	1	2	3	2	16	0	0
	0830	"	998.3	964.3	+0.5	27.2	24.9	23.9	29.7	83	+4	6.9	+0.7	4.0	0	0	21	1	0	6	3	0	4	5	2	10	0	0
	1130	"	998.0	963.2	..	29.6	25.6	23.9	29.4	73	..	7.4	..	5.4	0	0	25	0	0	5	5	0	5	6	4	6	0	0
	1730	"	995.3	960.5	..	29.3	25.5	23.7	29.4	75	..	7.0	..	4.0	0	0	25	0	3	4	1	2	9	1	5	6	0	0
	2330	"	998.0	962.9	..	26.8	25.2	24.5	30.7	88	..	6.9	..	3.8	0	0	19	0	2	4	0	3	4	4	2	12	0	0
Sidhi	0830	266	995.8	966.5	..	27.9	25.2	23.7	30.0	79	..	6.3	..	4.8	0	0	26	4	1	1	4	5	6	4	1	5	0	0
	1730	"	994.2	965.1	..	29.9	25.5	23.3	28.9	71	..	5.1	..	3.5	0	0	24	3	0	6	0	2	1	12	0	7	0	0
Umaria	0830	459	998.5	948.2	..	25.9	24.0	23.3	28.4	85	+2	6.8	-0.2	8.8	0	3	24	1	4	0	0	1	10	7	4	4	0	0
	1730	"	995.9	945.9	..	27.5	24.7	23.6	29.1	80	..	7.0	..	6.1	0	0	21	1	0	2	1	4	5	4	4	10	0	0
Jabalpur	0530	393	998.0	954.5	..	24.3	23.4	23.0	28.2	93	..	7.1	..	6.5	0	0	25	1	0	0	3	5	10	6	0	6	0	0
	0830	"	999.2	955.8	-0.7	25.8	24.1	23.3	28.9	87	+4	7.0	+0.3	7.3	0	0	29	0	1	1	1	3	11	9	1	3	0	0
	1130	"	998.8	955.8	..	28.0	25.0	23.6	29.2	78	..	7.0	..	7.2	0	1	27	1	1	1	1	3	11	9	1	3	0	0
	1730	"	996.3	953.4	..	27.7	25.1	23.9	29.7	81	..	7.2	..	5.9	0	0	28	1	2	0	4	5	7	7	2	3	0	0
	2330	"	999.1	955.7	..	25.3	24.1	23.4	29.0	90	..	6.9	..	5.4	0	0	21	0	1	0	1	6	8	5	0	10	9	0
Mandia	0830	443	999.3	950.3	..	25.1	23.9	23.1	28.7	89	..	6.5	..	2.7	0	0	9	3	0	0	0	2	1	1	2	22	0	0
	1730	"	996.3	948.1	..	26.8	24.4	23.1	28.5	78	..	6.2	..	2.4	0	0	18	4	1	1	0	5	3	1	3	13	0	0
Pendra	0530	625	998.2	929.9	..	23.2	22.3	21.9	26.4	93	..	7.6	..	7.3	0	0	24	4	0	0	2	7	5	4	2	2	0	0
	0830	"	999.3	931.1	-0.7	24.6	23.0	22.4	27.5	88	+4	7.5	+1.7	8.7	0	1	28	8	1	2	0	9	5	2	2	2	0	0
	1130	"	998.6	930.9	..	26.5	23.9	22.7	28.7	80	..	7.2	..	9.9	0	3	27	5	4	1	3	2	5	7	3	5	1	0
	1730	"	996.2	928.7	..	26.4	23.7	22.6	26.9	81	..	7.3	..	8.5	0	3	27	4	1	2	3	6	6	3	3	5	0	0
	2330	"	999.2	931.0	..	24.0	22.8	22.2	26.9	90	..	7.0	..	7.2	0	1	25	2	1	2	3	2	4	10	3	2	2	0
Ambikapur	0830	611	999.4	932.8	..	25.1	23.3	22.5	27.5	86	..	6.2	..	7.4	0	0	29	3	2	3	2	4	10	3	2	2	0	0
	1730	"	996.3	930.0	..	27.2	24.1	22.7	27.8	77	..	5.4	..	9.0	0	0	31	5	4	1	1	4	7	7	2	0	0	0
Champa	0830	245	999.8	972.5	..	26.4	24.6	23.8	29.4	86	..	6.9	..	6.5	0	1	28	4	0	4	0	2	8	10	1	2	0	0
	1730	"	996.7	969.8	..	29.1	25.3	23.7	29.1	74	..	7.5	..	8.1	0	4	25	3	1	1	1	2	7	10	4	2	0	0
Raigarh	0830	220	999.6	975.2	..	27.0	25.1	24.1	30.2	85	..	7.3	..	5.4	0	0	29	1	4	0	3	1	16	1	0	4	0	0
	1730	"	996.4	972.2																								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Madhya Pradesh (East)—Contd.																												
Jagdalpur (P.B.O.)	0530	553	1000.7	939.8	..	22.8	21.9	21.5	25.6	92	..	7.9	..	5.3	0	0	21	0	0	0	0	3	8	7	3	10	0	0
	0830	"	1001.5	940.9	-0.4	24.6	22.5	21.5	25.8	84	0	7.5	+0.9	6.6	0	1	24	0	0	0	0	2	13	8	2	6	0	0
	1130	"	1000.9	940.6	..	26.4	23.1	21.9	25.7	76	..	7.3	..	9.5	0	4	22	0	0	0	0	2	9	13	2	5	0	0
	1730	"	999.1	938.8	..	25.4	23.0	22.0	26.5	82	..	7.8	..	7.1	0	0	29	0	0	0	0	2	15	10	2	2	0	0
	2330	"	1001.7	940.8	..	23.5	22.3	21.8	26.1	91	..	7.3	..	4.6	0	1	30	0	0	0	1	4	13	1	2	10	0	0
Gujrat																												
Deesa	0830	136	999.2	983.9	-1.3	26.3	25.1	24.5	30.8	90	..	7.4	..	7.2	0	1	23	0	0	0	9	5	9	4	2	2	0	0
	1730	"	996.4	981.3	..	29.6	26.0	24.4	30.7	75	..	7.1	..	8.1	0	1	29	0	1	1	3	6	11	2	1	1	0	0
Radhanpur	0830	30	998.6	995.2	..	27.1	25.3	24.5	30.9	86	..	6.0	..	5.7	0	0	31	0	0	1	0	12	4	14	0	0	0	0
	1730	"	996.6	993.2	..	29.6	26.0	24.3	30.7	73	..	5.1	..	6.3	0	0	30	1	0	1	0	11	0	17	0	1	0	0
Jdar	0830	219	999.6	975.1	..	25.5	24.8	24.3	30.9	94	..	8.0	..	8.4	0	1	27	0	0	0	4	7	10	7	0	3	0	0
	1730	"	996.7	972.6	..	29.0	25.8	24.3	30.5	77	..	7.1	..	6.6	0	0	30	1	1	2	4	3	11	7	1	1	0	0
Ahmedabad	0230	55	998.8	992.5	..	25.8	24.9	24.5	30.9	92	..	6.7	..	11.4	0	0	31	0	0	0	2	8	13	7	1	0	0	0
	0530	"	998.5	992.2	..	25.4	24.8	24.4	31.0	94	..	7.1	..	10.6	0	0	30	0	0	0	3	5	11	8	0	1	0	0
	0830	"	999.7	993.4	-1.9	26.4	25.3	24.8	31.3	91	+8	7.1	+0.7	12.1	0	3	27	0	0	0	2	6	12	8	2	1	0	0
	1130	"	999.9	993.7	..	28.5	26.0	25.0	31.6	82	..	7.3	..	13.5	0	4	26	0	0	0	1	6	8	12	3	1	0	0
	1730	"	997.3	991.1	..	29.1	26.2	25.0	31.7	80	..	7.0	..	15.9	0	6	25	1	0	1	5	8	6	9	1	0	0	0
	2330	"	1000.0	993.7	..	26.3	25.3	24.8	31.3	92	..	7.2	..	12.3	0	1	30	0	0	1	3	10	10	7	0	0	0	0
Dohad	0830	333	1000.0	963.0	..	24.9	23.8	23.3	28.5	91	+3	7.5	+0.2	21.0	0	13	13	0	0	0	0	3	13	15	0	0	0	0
	1730	"	997.8	961.2	..	27.4	24.6	23.3	28.7	79	..	6.9	..	20.0	0	12	19	0	0	0	0	1	20	9	1	0	0	0
Baroda	0530	34	999.5	995.5	..	25.7	25.2	24.9	31.6	96	..	6.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0820	"	1000.7	996.7	..	26.6	25.6	25.3	32.0	93	+8	7.6	+0.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	1000.9	996.7	..	28.7	26.4	25.4	32.7	83	..	7.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	998.4	994.5	..	28.9	26.3	25.2	32.2	82	..	7.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	2330	"	1001.0	997.0	..	26.3	25.4	25.0	31.8	93	..	6.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Baroda (Aerodrome)	0830	38	1000.5	996.2	..	26.7	25.6	25.0	31.9	91	..	7.4	..	12.9	0	2	29	0	0	0	1	9	16	5	0	0	0	0
	1130	"	1000.6	996.3	..	28.5	26.2	25.1	31.9	83	..	7.4	..	11.9	0	3	23	0	0	0	1	7	16	7	0	0	0	0
	1730	"	998.1	993.9	..	28.7	26.1	25.0	31.8	82	..	7.2	..	15.2	0	8	23	0	0	0	1	10	14	5	1	0	0	0
Broach	0830	17	1000.5	998.5	..	26.4	25.4	24.8	31.7	91	..	7.0	..	7.4	0	0	31	9	0	0	1	11	12	6	1	0	0	0
	1730	"	998.4	996.4	..	28.2	25.8	24.7	31.3	82	..	6.8	..	10.4	0	0	31	0	0	0	0	1	30	6	0	0	0	0
Surat	0530	12	999.5	998.2	..	26.0	25.2	24.8	31.3	93	..	7.0	..	10.5	0	1	30	0	0	0	1	4	23	3	0	0	0	0
	0830	"	1000.9	999.6	-1.5	26.7	25.7	25.3	32.3	92	+9	7.0	+0.1	6.4	0	0	31	0	0	0	1	2	24	4	0	0	0	0
	1130	"	1001.2	999.9	..	28.0	26.2	25.5	32.6	87	..	7.6	..	11.9	0	4	27	0	0	0	1	2	22	6	0	0	0	0
	1730	"	999.2	997.9	..	27.7	25.9	25.1	32.1	87	..	7.2	..	12.6	0	3	23	0	0	0	0	4	25	2	0	0	0	0
	2330	"	1001.3	1000.0	..	26.6	25.5	25.0	31.8	92	..	7.0	..	12.5	0	3	23	0	0	0	1	5	24	1	0	0	0	0
Saurashtra and Kutch																												
Naliya	0830	21	998.1	995.7	..	27.4	26.1	25.4	32.6	89	..	6.7	..	21.4	0	14	16	0	0	0	2	4	16	7	1	1	0	0
	1730	"	996.5	994.2	..	28.6	26.4	25.5	32.6	84	..	7.5	..	23.7	0	13	13	0	0	2	1	5	12	10	1	0	0	0
Bhuj (Aerodrome) .	0230	80	997.6	988.5	..	26.1	25.0	24.5	30.6	91	..	5.5	..	13.5	0	6	20	0	0	0	0	3	12	10	1	5	0	0
	0530	"	997.4	988.2	..	26.0	24.8	24.3	30.3	92	..	6.0	..	15.4	0	7	23	1	1	0	1	3	9	12	3	1	0	0
	0830	"	998.5	989.4	-1.6	26.9	25.4	24.7	31.2	83	+13	6.4	+0.4	14.8	0	5	26	1	0	0	2	3	12	12	1	0	0	0
	1130	"	998.5	989.6	..	29.3	25.9	24.4	30.8	75	..	6.5	..	20.5	0	17	12	0	0	0	0	3	10	13	3	2	0	0
	1730	"	996.2	987.2	..	29.2	25.8	24.3	30.5	76	..	6.4	..	23.6	0	19	12	0	1	0	1	2	15	16	2	0	0	0
	2330	"	998.8	989.7	..	26.6	25.3	24.7	31.2	90	..	5.7	..	15.1	0	4	25	0	1	0	0	3	13	11	1	2	0	0
Kandla	0830	14	999.7	998.1	..	27.2	25.6	24.9	31.4	87	..	6.8	..	18.0	0	10	21	0	0	1	4	2	11	11	2	0	0	0
	1730	"	997.7	996.1	..	29.7	26.2	24.8	31.1	75	..	6.0	..	33.1	0	27	3	0	0	1	1	4	15	9	0	1	0	0
Mandvi	0830	9	998.4	997.4	..	28.0	26.4	25.4	33.1	87	..	7.0	..	29.5	1	22	7	1	0	0	0	4	7	12	1	1	0	0
	1730	"	994.0	993.0	..	28.8	27.0	26.4	34.3	86	..	7.0	..	30.7	0	27	4	0	0	0	0	1	16	13	1	0	0	0
Dwarka	0830	11	999.0	997.7	-2.0	28.0	26.5	25.9	33.4	88	+5	7.9	+1.3	28.9	0	24	7	1	0	0	0	2	10	16	2	0	0	0
	1730	"	997.5	996.2	..	28.2	26.4	25.7	33.0	87	..	7.8	..	32.														

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Saurashtra and Kutch <i>Contd.</i> Rajkot (Aerodrome)	0830	138	999.5	984.1	-1.6	26.0	25.3	24.9	31.6	94	+13	6.3	-0.3	23.0	0	20	11	0	0	0	1	6	21	3	0	0	0
	1130	"	999.4	984.2	"	28.8	26.0	24.8	31.4	80	"	6.3	"	28.7	0	24	7	0	0	0	0	5	18	5	3	0	0
Surendranagar	1730	"	997.3	982.1	"	28.3	25.6	24.4	30.5	81	"	6.1	"	29.3	0	24	6	0	1	0	0	2	19	6	2	1	0
	0830	74	999.4	991.1	"	26.7	25.7	25.4	32.2	95	"	7.2	"	13.2	0	3	28	0	1	0	3	3	17	5	2	0	0
Bhavnagar	1730	"	997.0	983.3	"	29.8	27.1	26.1	33.5	80	"	7.5	"	20.1	0	13	16	0	1	0	2	2	13	4	2	2	0
	0830	17	1000.5	998.7	-1.1	27.1	25.5	24.6	31.4	87	+11	6.6	+0.3	4.0	0	0	31	0	0	0	1	1	24	3	2	0	0
Bhavnagar (Aerodrome)	1730	"	998.3	996.4	"	29.3	26.0	24.6	30.9	74	"	7.0	"	7.9	0	1	30	0	0	0	1	4	17	8	1	0	0
	0830	17	1000.3	999.1	"	27.3	25.3	24.5	30.7	84	"	6.3	"	19.7	0	12	19	0	0	0	0	2	22	7	0	0	0
Mahuva	1130	"	1000.5	999.3	"	29.9	26.2	24.1	30.9	72	"	6.5	"	25.0	0	13	12	0	0	0	0	3	13	14	0	1	0
	1730	"	993.1	996.9	"	29.4	25.7	23.9	29.9	75	"	6.4	"	32.0	1	25	5	0	0	0	1	6	19	5	0	0	0
	0830	16	1000.5	998.8	"	26.7	26.3	26.1	34.0	97	"	5.7 (b)	"	19.3 (b)	0	9	20	0	0	0	0	5	13	11	0	0	0
Keshod	1730	"	998.9	997.2	"	28.0	27.2	26.9	35.4	95	"	6.1 (a)	"	27.7 (a)	0	21	9	0	0	0	0	6	16	7	1	0	0
	0830	51	1000.3	994.5	"	26.9	25.6	25.1	31.6	84	"	6.7	"	27.6	0	25	6	0	0	0	0	1	12	16	2	0	0
	1130	"	1000.6	994.9	"	28.2	25.8	25.0	31.5	84	"	7.2	"	33.4	0	26	5	0	0	0	0	1	12	18	0	0	0
Veraval	1730	"	999.0	993.2	"	27.5	25.3	24.4	30.4	83	"	7.1	"	34.6	0	28	3	0	0	0	0	0	10	20	1	0	0
	0230	8	999.5	998.6	"	27.4	26.2	25.7	33.1	91	"	6.7	"	37.4	1	28	2	0	0	0	0	0	10	19	2	0	0
	0530	"	999.1	998.2	"	27.7	26.1	25.5	32.4	89	"	7.1	"	37.3	0	30	1	0	0	0	0	0	10	8	3	0	0
	0830	"	1000.4	999.5	-1.9	27.6	26.3	25.7	33.2	90	+5	7.4	+0.8	35.0	1	27	3	0	0	0	0	0	12	15	4	0	0
	1130	"	1000.9	1000.0	"	28.3	26.6	25.9	33.5	87	"	7.3	"	35.5	1	26	4	0	0	0	0	0	11	17	3	0	0
	1730	"	999.1	998.2	"	27.9	26.4	25.8	33.1	88	"	7.2	"	36.0	1	29	1	0	0	0	0	0	9	20	2	0	0
	2330	"	1000.9	1000.0	"	27.5	26.2	25.7	33.0	90	"	6.5	"	35.8	0	30	1	0	0	0	0	0	12	19	0	0	0
Konkan																											
Dahanu	0830	5	1002.0	1001.5	-0.7	27.0	25.4	24.8	31.2	88	0	7.6	0	25.2	0	20	11	0	0	0	0	3	22	6	0	0	0
	1730	"	1000.6	1000.1	"	27.9	25.9	25.1	31.9	86	"	7.2	"	28.8	0	23	8	0	0	0	0	0	21	10	0	0	0
Bombay (Colaba)	0830	11	1003.3	1002.1	-1.1	26.8	25.5	24.9	31.7	90	+7	7.1	+0.1	19.5	0	11	20	0	0	0	0	0	10	20	1	0	0
	1130	"	1003.7	1002.5	"	28.0	26.2	25.5	32.4	87	"	7.1	"	21.0	0	16	15	0	0	0	0	0	17	14	0	0	0
	1730	"	1002.0	1000.8	"	27.4	25.8	25.1	31.8	87	"	7.5	"	20.4	0	14	17	0	0	0	0	0	10	21	0	0	0
Bombay (Santa Cruz Aerodrome)	0230	15	1002.1	1000.5	"	26.3	25.0	24.4	30.7	90	"	6.9	"	20.2	0	12	19	0	0	0	0	1	14	16	0	0	0
	0530	"	1001.9	1000.3	"	26.1	24.9	24.3	30.6	90	"	7.5	"	20.2	0	14	17	0	0	0	0	0	14	17	0	0	0
	0830	"	1003.2	1001.6	-1.2	26.9	25.3	24.7	30.8	87	+6	7.6	+0.6	20.7	0	12	19	0	0	0	0	0	12	19	0	0	0
	1130	"	1003.7	1002.0	"	27.6	25.7	24.9	31.4	85	"	7.7	"	24.8	0	21	10	0	0	0	0	0	12	19	0	0	0
	1730	"	1001.9	1000.3	"	27.2	25.5	24.7	31.3	87	"	7.8	"	22.7	0	16	15	0	0	0	0	0	14	17	0	0	0
Alibag	2330	"	1003.8	1002.1	"	26.5	25.2	24.6	30.9	90	"	6.3	"	19.4	0	9	22	0	0	0	0	0	17	13	1	0	0
	0830	7	1003.6	1002.8	-1.1	27.4	25.5	24.7	31.0	86	+2	7.7	+0.1	35.0	1	28	2	0	0	0	0	0	18	11	2	0	0
Harnai	0830	26	1003.8	1001.5	-0.6	27.3	25.7	25.0	31.6	88	+3	7.3	"	27.1	0	23	8	0	0	0	0	1	4	20	0	0	6
	1730	"	1002.8	1000.5	"	27.2	25.7	25.0	31.7	87	"	7.7	"	27.4	0	19	12	0	0	0	0	3	9	17	1	0	1
Ratnagiri	0830	35	1005.2	1001.2	-0.7	27.1	25.5	24.8	31.3	87	"	7.1	"	"	0	26	5	0	0	0	0	0	20	11	0	0	0
	1730	"	1003.9	999.9	"	27.6	25.7	25.0	31.4	85	"	7.0	"	"	0	26	5	0	0	0	0	0	20	11	0	0	0
Devgad	0830	36	1005.4	1001.4	+0.1	27.1	25.8	25.3	32.2	90	+3	7.2	+0.4	35.3	0	31	0	0	0	0	0	0	3	22	6	0	0
	1730	"	1004.1	1000.1	"	27.8	26.1	25.3	32.5	87	"	7.1	"	34.9	0	31	0	0	0	0	0	0	7	19	5	0	0
Vengurla	0230	9	1005.1	1004.1	"	26.1	25.1	24.6	30.9	91	"	7.2	"	12.1	0	4	22	0	0	0	0	0	10	16	0	5	0
	0530	"	1004.8	1003.8	"	26.1	25.2	24.7	31.2	92	"	7.5	"	13.6	0	4	27	0	0	0	0	0	15	12	4	0	0
	0830	"	1006.2	1005.2	"	27.0	25.5	24.9	31.5	88	"	7.4	"	10.7	0	2	29	0	0	0	0	1	14	14	2	0	0
	1130	"	1006.7	1005.7	"	27.7	26.1	25.5	32.4	88	"	7.4	"	10.8	0	2	29	1	1	0	0	2	15	11	1	0	0
	1730	"	1005.0	1004.0	"	27.5	25.8	25.1	31.2	87	"	7.5	"	10.4	0	1	29	0	0	0	0	0	16	11	3	1	0
2330	"	1006.8	1005.8	"	26.7	25.4	24.8	31.6	89	"	7.0	"	11.3	0	2	28	1	0	0	0	0	12	17	0	1	0	
Maharashtra (Including Marathwada)																											
Nandurbar	0830	206	1001.0	977.9	"	25.9	24.4	23.7	29.5	88	"	"	"	9.4	0	0	31	0	0	0	0	1	0	30	0	0	0
	1730	"	999.2	976.3	"	27.1	24.8	23.7	29.6	83	"	"	"	9.9	0	1	30	0	0	0	0	0	1	30	0	0	0
Jalgaon	0830	201	1001.4	978.9	"	25.8	23.9	22.9	28.1	84	"	6.4	"	15.2	0	9	21	0	0	0	2	1	7	14	6	1	0
	1730	"	998.5	976.4	"	29.5	24.9	22.6																			

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars		Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed kts. per hour	Wind speed (km.p.h.)			No. of observations											
			At mean sea level or height in ft. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb				Dew point	Mean amount		Departure from normal	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Maharashtra (including Marathwada) —contd. Aurangabad (Bhikathana Aerodrome).	0230	579	1001.5	937.5	..	22.3	21.5	21.1	25.1	93	..	6.2	..	11.7	0	1	27	0	0	0	0	0	5	22	1	3	0	0
	0530	"	1001.2	937.2	..	22.0	21.3	20.9	24.8	93	..	6.5	..	10.0	0	1	26	0	0	0	0	0	5	19	3	4	0	0
	0830	"	1002.3	938.5	..	23.6	22.3	21.7	25.9	89	..	7.3	..	13.1	0	2	29	0	0	0	0	1	9	20	1	0	0	0
	1130	"	1001.8	938.6	..	26.4	23.2	21.8	26.1	77	..	7.5	..	18.0	0	8	23	0	0	0	0	0	4	22	5	0	0	0
	1730	"	999.6	936.4	..	25.5	23.0	21.8	26.3	81	..	7.6	..	21.5	0	14	17	0	0	0	0	0	0	10	20	1	0	0
	2330	"	1002.9	938.9	..	23.0	21.8	21.3	25.4	90	..	5.9	..	13.9	0	4	24	0	0	0	0	0	0	4	24	0	3	0	0
Ahmednagar	0830	657	1002.8	930.7	-1.2	23.4	21.6	20.6	24.4	84	+7	6.7	-0.9	5.1	0	0	24	0	0	0	0	0	22	0	2	7	0	0
Buldhani	0830	423	1003.1	956.1	..	24.5	22.3	21.1	25.1	82	..	6.6	..	13.3	0	0	31	0	0	0	0	0	15	15	1	0	0	0
	1730	"	999.4	953.2	..	26.1	23.2	20.7	24.4	67	..	7.4	..	21.1	0	13	17	0	1	0	0	0	5	22	2	1	0	0
Puna (Lohagan Aerodrome).	0530	559	1002.6	940.0	..	22.2	21.2	20.7	24.5	91	..	7.2	..	5.0	0	0	19	0	0	0	0	0	12	6	1	12	0	0
	0830	"	1003.1	941.4	-1.2	23.7	22.1	21.1	25.3	87	+8	7.5	+0.9	3.5	0	0	17	0	0	0	0	0	12	5	0	14	0	0
	1130	"	1003.1	941.8	..	25.7	22.9	21.7	25.9	79	..	7.7	..	7.4	0	0	29	0	0	0	0	1	14	14	0	2	0	0
	1730	"	1001.4	940.0	..	24.7	22.2	21.1	24.9	80	..	7.5	..	8.0	0	0	28	0	0	0	0	0	9	10	1	11	0	0
	2330	"	1004.1	942.1	..	22.7	21.5	20.8	24.8	89	..	7.0	..	4.2	0	0	20	0	0	0	0	0	0	30	1	0	0	0
Solapur (Lohagan Aerodrome).	0230	593	1002.9	937.2	..	21.8	21.2	20.9	25.0	94	..	7.0	..	..	0	1	30	0	0	0	0	0	0	26	1	4	0	0
	0530	"	1002.3	936.6	..	21.7	21.2	20.9	24.8	95	..	7.2	..	10.2	0	4	23	0	0	0	0	0	1	29	1	0	0	0
	0830	"	1003.2	937.3	..	23.4	22.1	21.5	25.8	90	..	7.1	..	14.5	0	6	25	0	0	0	0	0	1	28	2	0	0	0
	1130	"	1003.1	938.1	..	25.1	22.8	21.6	26.2	81	..	7.4	..	21.5	0	17	14	0	0	0	0	0	0	31	0	0	0	0
	1730	"	1001.6	936.4	..	24.2	22.1	21.1	25.2	84	..	7.4	..	23.4	0	19	12	0	0	0	0	0	0	28	1	2	0	0
	2330	"	1001.2	938.4	..	22.1	21.4	21.0	25.2	91	..	6.6	..	10.4	0	3	26	0	0	0	0	3	14	13	1	0	0	0
Baramati	0830	551	1003.3	942.6	..	24.3	22.2	21.1	24.9	83	..	6.5	..	16.6	0	11	20	0	0	0	0	1	10	18	2	0	0	0
Bijapur	0830	521	1002.8	945.4	..	24.4	22.3	21.3	25.3	83	..	3.9	..	13.5	0	4	25	0	0	0	0	0	11	13	5	2	0	0
	1730	"	1000.2	943.5	..	23.2	23.1	20.6	24.4	65	..	4.6	..	29.9	0	27	4	0	0	0	0	0	4	15	12	0	0	0
Chandrapur	0530	479	1003.3	949.9	..	22.5	21.6	21.2	25.2	93	..	4.4	..	10.1	0	0	31	0	0	0	0	0	30	0	1	0	0	0
	0830	"	1003.0	951.0	-0.6	21.9	22.8	21.9	26.3	84	+11	6.5	+0.5	11.2	0	1	30	0	0	0	0	0	16	12	3	0	0	0
	1130	"	1003.2	950.9	..	28.3	23.9	21.9	26.4	69	..	6.9	..	18.1	0	10	21	0	0	0	0	1	23	0	7	0	0	0
	1730	"	1001.1	948.9	..	27.7	23.3	21.3	25.3	70	..	6.9	..	12.7	0	1	30	0	0	0	0	0	23	4	4	0	0	0
	2330	"	1001.5	951.4	..	24.0	22.2	21.3	25.6	85	..	4.0	..	11.7	0	0	31	0	0	0	0	0	1	23	0	7	0	0
Nandurbar	0830	554	1004.3	943.5	-1.0	23.4	22.0	21.3	25.4	87	+4	7.6	0.2	..	0	2	22	0	0	0	0	0	1	29	0	1	0	0
Kolhapur	0530	570	1003.7	940.6	..	22.2	21.3	20.9	24.8	93	..	7.4	..	15.1	0	5	26	0	0	0	0	0	2	29	0	0	0	0
	0830	"	1004.9	941.8	-0.6	22.9	21.8	21.3	25.4	90	+1	7.0	+0.1	15.7	0	5	26	0	0	0	0	1	2	25	3	0	0	0
	1130	"	1004.3	942.1	..	21.3	22.5	21.7	25.9	86	..	7.3	..	21.3	0	13	18	0	0	0	0	0	2	28	1	0	0	0
1730	"	1003.1	940.4	..	23.9	22.1	21.3	25.3	85	..	7.1	..	19.3	0	15	16	0	0	0	0	0	3	26	2	0	0	0	
Vidarbha	0830	650	1001.2	929.9	..	23.0	21.4	20.8	24.5	86	..	7.3	..	6.7	0	0	31	0	0	0	0	0	11	0	20	0	0	0
	1730	"	993.2	927.9	..	26.8	22.8	20.7	24.9	71	..	7.3	..	5.9	0	0	26	0	0	0	0	1	10	15	0	5	0	0
Akola	0830	282	1001.4	970.0	-0.8	25.7	23.1	22.3	27.1	82	+4	6.3	0	4.2	0	0	26	0	0	0	0	1	10	16	2	2	0	0
	1130	"	1000.9	969.8	..	23.1	24.0	21.9	26.5	70	..	7.4	..	7.1	0	0	29	0	0	0	0	0	2	18	4	6	0	0
	1730	"	993.1	967.1	..	23.9	21.3	22.2	26.7	69	..	7.5	..	4.5	0	0	25	1	0	0	0	0	14	12	2	2	0	0
Akola (Aerodrome)	0530	309	1000.0	965.4	..	23.8	22.5	21.5	26.2	92	..	6.0	..	8.2	0	2	27	0	0	0	0	2	10	14	2	3	0	0
2330	"	1000.9	966.5	..	25.1	23.3	22.4	27.2	86	..	6.5	..	3.2	0	2	26	0	0	0	0	3	4	22	2	0	0	0	
Amravati	0830	370	1001.4	960.5	-0.5	21.7	23.0	22.1	26.8	86	+5	6.5	+0.3	12.9	0	2	29	0	0	0	0	1	1	10	8	11	0	0
	1730	"	997.7	957.3	..	28.3	24.2	22.3	26.7	72	..	7.4	..	12.4	0	0	31	0	0	0	0	3	7	18	2	0	0	0
Yavatmal	0830	454	1001.5	951.6	..	24.1	23.3	22.8	28.0	93	..	6.5	..	12.3	0	1	30	1	0	0	0	1	8	14	8	0	0	0
	1730	"	998.0	949.0	..	27.2	25.0	24.0	30.3	85	..	7.0	..	10.2	0	0	31	0	0	1	0	1	13	9	3	4	0	0
Nagpur	0230	310	999.1	964.5	..	24.6	23.4	22.9	23.0	90	..	7.1	..	10.3	0	3	24	0	0	0	0	1	3	10	10	2	5	0
	0530	"	999.4	964.8	..	24.1	23.1	22.6	27.4	91	..	7.3	..	8.4	0	1	25	0	0	0	0	0	11	12	6	1	0	0
	0830	"	1000.7	966.2	-0.8	25.3	23.5	22.6	27.5	86	+4	6.9	+0.4	13.9	0	6	24	1	0	0	0	1	0	12	9	9	0	0
	1130	"	1000.5	966.2	..	27.6	24.4	22.9	28.2	76	..	7.3	..	18.0	0	11	20	0	0	0	1	0	1	10	12	6	0	0
	1730	"	997.7																									

Division and station	Hour of observation I.S.T.	Height of barometer corrected above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okras)			Wind speed (km.p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Vidarbha—contd.																													
Chanda	0830	193	1001.7	980.0	-0.7	26.0	24.1	23.2	26.4	85	+7	6.9	+0.7	10.3	0	1	30	0	0	1	0	2	11	15	2	0	0	0	
	1730	"	998.4	977.1	..	23.7	25.5	24.1	30.1	79	..	7.3	..	11.5	0	3	27	2	1	0	0	4	6	12	5	1	0	0	
Sangli	0830	123	1002.7	983.7	..	26.1	24.2	23.2	28.6	85	..	7.0	..	5.7	0	0	26	0	0	0	2	4	5	12	3	5	0	0	
	1730	"	999.4	985.7	..	29.2	25.4	23.7	29.5	74	..	6.8	..	6.9	0	0	28	1	1	1	4	3	3	10	5	3	0	0	
Coastal Pradesa Andhra																													
Bhubaneswar	0530	20	1001.3	1001.4	..	26.8	23.5	21.8	28.1	75	..	7.1	..	1.7	0	0	16	0	0	0	0	1	7	5	3	15	0	0	
	0830	"	1001.9	1002.7	-0.1	28.7	24.4	22.4	27.1	69	+6	6.8	+0.5	4.4	0	0	27	0	0	0	1	0	5	21	0	4	0	0	
	1130	"	1001.9	1002.2	..	31.5	24.8	21.7	25.9	57	..	6.9	..	7.1	0	0	31	0	0	0	0	0	10	20	1	0	0	0	
	1730	"	1001.3	999.6	..	32.1	25.3	22.2	26.7	57	..	7.4	..	3.5	0	0	26	0	0	0	0	1	7	18	0	5	0	0	
Onsole	0830	12	1003.9	1002.6	..	29.8	26.7	25.5	32.6	78	..	7.1	..	7.1	0	8	20	0	0	0	0	0	18	10	0	3	0	0	
	1730	"	1000.3	999.5	..	32.4	29.0	27.6	30.9	75	..	6.7	..	5.9	0	1	21	0	0	0	4	1	15	1	1	9	0	0	
Rantachhatra	0830	106	1003.9	992.0	..	27.9	25.0	23.7	29.3	79	+9	6.7	-0.3	6.6	0	0	30	0	0	0	0	0	6	22	2	1	0	0	
	1730	"	1000.6	983.9	..	31.3	26.5	24.3	30.2	68	..	7.3	..	7.0	0	0	30	0	0	0	0	0	3	26	1	1	0	0	
Ganapavani	0230	24	1001.9	999.1	..	25.8	24.2	23.5	29.9	87	..	6.9	..	11.0	0	5	20	0	1	0	0	1	8	13	2	6	0	0	
	0530	"	1002.1	999.3	..	25.6	23.7	23.1	26.3	87	..	7.0	..	11.3	0	4	25	1	0	0	0	0	9	15	4	2	0	0	
	0830	"	1003.4	1000.7	..	27.1	24.6	23.4	28.8	81	..	6.8	..	15.2	0	8	22	0	0	0	0	1	9	16	4	1	0	0	
	1130	"	1003.1	1000.4	..	29.4	25.2	23.2	28.4	70	..	7.2	..	25.3	0	20	11	0	0	0	0	1	6	17	7	0	0	0	
1730	"	1000.3	997.6	..	30.1	25.6	23.6	29.1	70	..	7.4	..	14.7	0	9	19	0	1	0	0	1	6	17	3	3	0	0		
	2330	"	1002.9	1000.2	..	26.9	25.0	24.1	30.0	85	..	7.1	..	11.8	0	2	25	0	0	1	1	3	11	10	1	4	0	0	
	0530	5	1002.3	1002.0	..	26.0	24.2	23.5	28.9	85	..	6.0	..	7.7	0	0	31	0	0	0	0	1	9	18	3	0	0	0	
	0830	"	1003.7	1003.4	-0.4	27.3	24.6	23.4	28.8	80	+2	5.8	-0.4	11.2	0	1	30	0	0	0	0	1	6	19	5	0	0	0	
1130	"	1003.0	1002.7	..	29.6	25.2	23.3	28.6	79	..	6.3	..	12.9	0	1	30	0	0	0	0	0	6	18	7	0	0	0		
	1730	"	1000.9	1000.6	..	30.4	25.9	23.9	29.7	69	..	6.8	..	10.3	0	0	31	0	0	0	0	5	4	19	3	0	0	0	
	2330	"	1002.3	1002.0	..	27.2	25.3	24.3	30.5	85	..	6.3	..	9.5	0	0	31	0	0	0	0	2	10	14	5	0	0	0	
	0830	12	1003.1	1001.7	..	26.8	24.7	24.1	32.2	84	..	7.2	..	18.3	0	11	20	1	0	0	0	0	10	19	1	0	0	0	
1730	"	1000.4	999.0	..	28.8	25.8	25.3	32.4	77	..	7.4	..	14.5	0	4	26	0	0	0	0	2	8	15	5	1	0	0		
	0830	8	1002.9	1002.0	-0.3	27.4	24.7	23.4	28.9	80	+2	6.4	+0.2	13.4	0	1	30	0	0	0	0	0	22	8	1	0	0	0	
1730	"	1000.1	999.2	..	29.6	25.4	23.5	28.9	71	..	6.9	..	11.8	0	1	30	0	0	0	0	0	0	28	2	1	0	0	0	
	0230	3	1000.6	1000.2	..	26.8	25.1	24.3	30.4	86	..	6.0	..	5.9	0	4	15	1	0	0	0	0	16	2	0	12	0	0	
0530	"	1000.7	1000.3	..	26.2	24.7	24.0	29.8	89	..	7.4	..	4.4	0	1	15	0	0	0	0	0	0	15	1	0	15	0	0	
	0830	"	1001.5	1001.1	-0.6	28.3	25.6	24.1	30.5	80	-5	6.9	+0.1	7.2	0	3	21	0	0	0	0	0	22	1	1	7	0	0	
	1130	"	1001.1	1000.7	..	30.5	26.4	24.6	30.9	72	..	7.4	..	12.5	0	8	21	0	0	0	0	0	27	1	1	2	0	0	
	1730	"	999.3	998.9	..	29.5	26.1	24.7	31.1	77	..	7.6	..	13.1	0	8	20	0	1	0	0	0	23	2	2	3	0	0	
2330	"	1001.8	1001.4	..	26.8	25.4	24.6	30.9	80	..	6.9	..	11.5	0	8	18	0	0	0	0	0	0	23	0	1	5	0	0	
	0830	..	..	..	..	..	..	..	..	..	..	7.2	+1.3	6.0	0	0	31	0	0	0	0	2	15	12	2	0	0	0
1730	..	..	..	..	..	..	..	..	..	..	..	7.2	..	8.5	0	0	31	0	0	1	0	10	14	4	2	0	0	0
	Telangana																												
Ramanandam	0830	156	1002.1	981.6	..	26.7	23.7	22.2	26.7	77	..	7.0	..	8.6	0	1	30	1	0	0	1	3	3	15	8	0	0	0	
	1730	"	999.1	981.8	..	30.1	24.9	22.5	27.3	66	..	6.3	..	4.9	0	0	26	2	1	1	0	3	3	12	4	5	0	0	
Nizamabad	0830	381	1002.9	960.6	-0.5	25.2	22.6	21.3	25.3	79	+2	5.7	-0.4	3.9	0	0	28	0	0	0	0	2	22	4	0	3	0	0	
	1730	"	998.9	956.3	..	29.1	24.4	22.1	26.6	63	..	6.8	..	3.0	0	0	27	0	0	0	0	3	19	2	3	4	0	0	
Mahabubnagar	0830	505	1004.7	948.6	..	23.8	21.9	21.1	25.0	85	..	7.1	..	13.4	0	0	31	0	0	0	0	2	16	5	8	0	0	0	
	1730	"	1001.1	946.0	..	27.1	22.9	20.9	24.7	71	..	7.7	..	8.2	0	0	30	0	0	0	0	0	10	17	3	1	0	0	
Hyderabad (Bensonpet Aerodrome)	0230	545	1002.5	942.4	..	23.0	21.3	20.4	24.0	85	..	5.9	..	24.3	0	18	13	0	0	0	0	0	3	26	2	0	0	0	
	0530	"	1002.7	942.5	..	22.4	21.0	20.4	24.0	89	..	7.3	..	22.4	0	14	17	0	0	0	0	0	4	24	3	0	0	0	
	0830	"	1003.7	943.8	-0.4	23.6	21.7	20.8	24.6	84	+3	7.5	+1.1	25.5	0	24	7	0	0	0	0	0	5	24	2	0	0	0	
	1130	"	1003.1	943.6	..	26.5	22.7	20.9	24.7	73	..	7.6	..	28.4	0	28	3	0	0	0	0	0	0	2	27	2	0	0	0
	1730	"	1000.2	940.9	..	26.8	22.9	21.1	25.0	73	..	7.5	..	21.6	0	15	15	1	1	0	0	0	0	7	16	5	1	0	0
2330	"	1003.8	943.7	..	23.9	21.7	20.6	24.3	83	..	6.4	..	22.8	0	17	14	1	0	0	0	0	0	6	22	2	0	0	0	
	0530	613	1002.6	934.9	..	21.9	20.8	20.1	23.5	90	..	6.9	..	22.2	0	21	10	0	0	0	0	0	5	24	2	0	0	0	
0830																													

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—JULY, 1959 (ASADHA 10—SRAVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, km. per hour	Wind speed (km. p.h.)			No. of observations											
			At mean sea level, or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean	Departure from normal		Wind direction			N	NE	E	SE	S	SW	W	NW	Calm	Variable		
															62 or more	20 to 61	1 to 19											19	20	21	22	23	24	25	26	27	28
Telangana—Contd.																													
Badrachallam	0930	111	1003.2	991.0	..	26.5	24.2	23.1	23.3	81	..	7.4	..	6.0	0	0	29	1	0	0	0	0	10	11	7	2	0	0	
	1730	"	999.7	987.4	..	29.5	25.0	22.7	27.6	69	..	7.4	..	5.6	0	1	29	5	1	0	0	0	5	15	4	1	0	0	
Khammameth	0830	112	1003.4	990.8	..	26.6	24.3	23.1	23.2	82	..	7.0	..	9.6	0	1	29	0	0	0	2	3	20	0	0	1	0	0	
	1730	"	1000.1	987.7	..	30.3	25.4	23.2	28.4	68	..	7.6	..	9.3	0	1	29	0	0	0	0	2	3	21	1	1	0	0	
Rayalaseema																													
Ayyasaram	0830	701	1005.8	929.2	..	21.1	20.8	19.0	22.0	73	..	7.0	..	9.0	0	6	25	0	0	0	0	1	5	19	6	0	0	0	
	1730	"	1002.4	926.9	..	27.7	24.7	18.7	21.6	59	..	7.5	..	12.0	0	15	16	1	0	0	0	0	3	17	10	0	0	0	
Chilapah	0830	130	1005.9	991.3	-0.2	28.0	24.0	22.1	26.6	71	-0.6	6.3	10.1	4.4	0	0	17	0	0	0	0	0	0	0	16	1	14	0	0
	1730	"	1002.3	987.9	..	31.0	25.1	22.2	26.7	62	..	6.6	..	7.5	0	0	24	0	0	0	0	0	23	0	1	7	0	0	
Madapur	0530	350	1004.4	965.3	..	23.8	21.5	20.2	23.7	80	..	6.5	..	13.6	0	2	29	0	0	0	0	0	3	23	0	0	0	0	
	0830	"	1005.4	966.5	..	25.8	22.3	20.5	24.1	73	..	7.0	..	18.5	0	9	22	0	0	0	0	0	9	22	0	0	0	0	
	1130	"	1004.6	966.1	..	29.1	23.1	20.1	23.5	59	..	7.2	..	21.8	0	27	4	0	0	0	0	0	3	27	1	0	0	0	
	1730	"	1002.3	963.8	..	29.0	22.6	19.1	22.1	57	..	7.1	..	28.7	0	30	1	0	0	0	0	0	4	26	1	0	0	0	
	2330	"	1005.9	966.9	..	25.2	21.8	20.0	23.4	73	..	5.7	..	19.5	0	14	17	0	0	0	0	0	5	26	0	0	0	0	
Kurnool	0830	281	1005.2	974.0	0	25.4	23.2	22.1	26.6	82	+1.0	7.7	+1.4	3.4	0	0	31	0	0	0	0	0	15	9	7	0	0	0	
	1730	"	1001.4	970.5	..	29.3	23.9	21.2	25.2	64	..	7.1	..	9.8	0	3	23	0	0	0	0	0	19	19	2	0	0	0	
Madras State																													
Palayamcottai	0830	51	1003.1	1002.5	..	29.0	23.5	20.7	24.1	62	..	^(a) 6.1	..	^(a) 11.2	0	5	25	0	0	0	0	0	3	26	1	0	0	0	
	1730	"	1005.3	1000.0	..	30.3	23.6	20.1	23.5	55	..	^(a) 6.3	..	^(a) 17.3	0	14	15	0	0	0	0	0	2	24	3	1	0	0	
Puducorin	0830	4	1003.2	1007.3	..	29.6	23.5	20.5	21.0	58	..	5.7	..	21.1	0	13	17	0	0	0	0	0	6	6	23	2	0	0	
	1730	"	1005.6	1005.2	..	31.4	23.9	20.1	23.5	52	..	4.7	..	23.7	0	25	6	0	0	0	1	1	0	23	1	0	0	0	
Pamban	0830	11	1007.6	1006.3	-0.1	23.1	25.7	21.6	30.9	91	-0.6	4.4	+1.1	11.5	0	4	24	1	0	0	0	4	11	11	1	3	0	0	
	1730	"	1005.0	1003.7	..	28.7	26.5	25.4	32.4	81	..	4.5	..	17.4	0	8	23	1	0	0	1	13	11	3	0	0	0	0	
Pondi	0830	5	1007.6	1007.0	..	28.7	26.3	25.3	32.2	81	..	5.0	..	11.9	0	5	22	0	0	2	1	3	11	4	1	4	0	0	
	1730	"	1004.6	1004.0	..	31.0	26.2	26.9	35.5	78	..	5.9	..	34.9	0	28	3	0	0	0	9	10	3	6	3	0	0	0	
Mathurai	0830	133	1007.2	992.3	-0.2	23.1	23.1	20.3	21.1	61	+0.7	7.3	+2.0	3.4	0	0	26	0	0	0	0	0	9	9	17	5	0	0	
	1730	"	1004.0	989.3	..	32.1	23.7	19.1	22.1	46	..	7.7	..	6.2	0	0	28	0	0	0	0	0	23	0	5	3	0	0	
Maturai (Aerodrome)	0530	131	1006.3	991.3	..	26.7	24.7	18.9	21.8	63	..	5.9	..	11.0	0	5	21	5	0	0	0	0	2	17	4	5	0	0	
	0830	"	1007.4	992.6	..	29.3	22.5	18.7	21.6	53	..	5.5	..	11.6	0	8	22	2	0	0	1	1	1	19	3	1	0	0	
	1130	"	1006.9	992.2	..	32.5	23.1	17.9	20.5	43	..	4.9	..	20.2	0	18	13	1	0	0	0	0	3	25	2	0	0	0	
	1730	"	1004.6	989.9	..	32.1	22.8	17.4	19.9	43	..	5.9	..	24.5	0	25	6	0	0	1	0	1	2	27	0	0	0	0	
Nagapatnam	0830	9	1007.3	1006.2	+0.2	29.2	23.7	20.9	24.7	61	-0.4	6.1	+1.5	13.2	0	5	25	0	0	0	0	0	12	17	1	1	0	0	
	1730	"	1003.9	1002.9	..	32.4	25.5	22.2	26.7	55	..	5.6	..	13.7	0	8	23	0	0	0	4	1	13	7	1	0	0	0	
Tiruchirapalli	0230	83	1005.5	995.6	..	27.1	22.3	19.8	23.1	61	..	5.3	..	32.7	0	13	13	0	0	0	0	0	0	34	6	0	0	0	
	0530	"	1005.6	995.7	..	26.5	22.3	20.0	23.4	68	..	6.2	..	27.8	0	9	21	0	0	0	0	0	1	23	1	1	0	0	
	0830	"	1006.9	997.0	-0.5	23.7	22.8	19.6	22.3	53	-0.1	6.2	+1.2	31.4	0	29	2	0	0	0	0	0	1	26	2	0	0	0	
	1130	"	1006.0	996.3	..	32.4	23.7	19.1	22.1	46	..	6.3	..	15.4	0	27	4	0	0	0	0	1	0	27	3	0	0	0	
	1730	"	1003.5	993.9	..	32.3	23.4	18.3	21.0	44	..	6.6	..	48.8	0	31	0	0	0	0	0	0	1	29	1	0	0	0	
	2330	"	1007.0	997.1	..	27.3	22.3	19.4	22.5	60	..	6.0	..	36.4	0	20	11	0	0	0	0	0	0	31	0	0	0	0	
Coimbatore	0830	409	1007.6	962.4	+0.1	24.0	21.5	20.1	23.5	39	0	7.2	+2.3	18.3	0	4	39	0	0	0	0	12	16	5	0	0	0	0	
	1730	"	1005.7	960.4	..	25.7	21.9	19.9	23.2	71	..	7.2	..	19.9	0	12	19	0	0	0	0	7	17	7	0	0	0	0	
Coimbatore (Pelamedu Aerodrome)	0530	400	1006.6	961.7	..	22.0	21.1	20.6	24.3	92	..	6.5	..	28.0	0	5	26	0	0	0	0	3	20	3	0	0	0	0	
	0830	"	1007.7	963.1	..	23.7	22.0	21.1	25.0	56	..	6.4	..	29.8	0	30	1	0	0	0	0	3	26	2	6	0	0	0	
	1130	"	1007.0	962.9	..	27.2	22.8	20.5	24.1	63	..	6.4	..	40.7	0	31	0	0	0	0	0	1	24	6	0	0	0	0	
	1730	"	1005.5	961.1	..	25.3	22.1	20.5	24.1	75	..	6.8	..	38.9	0	31	0	0	0	0	0	2	23	6	0	0	0	0	
	2330	"	1008.3	963.5	..	22.3	21.5	20.8	24.6	89	..	5.2	..	34.2	0	31	0	0	0	0	0	9	20	2	0	0	0	0	
Salem	0530	278	1006.1	974.8	..	23.4	21.7	20.8	24.6	85	..	6.6	..	3.8	0	0	28	0	0	0	0	4	17	7	0	3	0	0	
	0830	"	1007.1	975.9	-0.5	25.3	22.6	21.1	25.0	78	+1	6.3	+0.3	4.5	0	0	27	0	0	0	0	4	11	13	1	4	0	0	
	1130	"	1006.3	975.6	..	29.7	23.5	20.4	24.0	58	..	6.9	..	8.0	0	0	31	0	0	0	0	4	16	10	1	0	0	0	
	1730	"	1003.8	973.1	..	29.5	23.1	19.7	22.9	58	..	7.4	..	7.4	0	0	28	1	0	1									

TABLE III--SUMMARY OF OBSERVATIONS AT FIXED HOURS--JULY, 1959 (ASADHA 10--SARVANA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed per hour km.	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Ceylon--contd.																												
Hambantota	0830	15	1009.2	1007.5	+0.5	27.0	24.6	23.5	28.9	81	-4	5.1	+1.1	21.1	0	20	11	0	0	0	0	0	30	1	0	0	0	
	1730	"	1007.1	1005.4	"	28.7	24.3	22.2	26.7	69	"	5.9	"	25.2	0	20	11	0	0	0	0	0	24	7	0	0	0	
Mannar	0830	4	1008.4	1007.9	"	28.3	25.4	24.2	30.2	79	"	6.1	"	13.9	0	3	28	0	0	0	0	4	27	0	0	0	0	
	1730	"	1005.9	1005.5	"	28.6	25.5	24.2	30.2	78	"	6.8	"	16.0	0	6	25	0	0	0	0	4	27	0	0	0	0	
Hydrometeorological Observatories, Damodar Catchment																												
Bokaro	0830	242	999.3	972.6	"	28.1	25.8	24.7	32.0	82	"	6.5	"	8.3	0	2	28	0	2	14	1	0	4	2	3	1	4	
	1730	"	996.4	969.8	"	29.1	26.1	24.9	30.8	79	"	7.0	"	7.3	0	0	29	1	0	14	1	3	3	3	2	2	2	
Hazaribagh	0830	615	998.8	932.2	"	25.5	22.3	21.4	25.5	80	"	6.5	"	6.1	0	0	25	0	0	11	4	1	2	4	3	6	0	
	1730	"	995.8	929.5	"	26.7	23.4	21.9	26.0	76	"	6.7	"	4.6	0	0	28	0	2	10	5	1	4	4	2	3	0	
Tilaiya	0830	"	"	"	"	27.4	25.0	24.0	29.1	81	"	6.6	"	13.8	0	4	27	2	0	16	3	0	0	7	2	0	1	
	1730	"	"	"	"	29.7	25.5	24.0	29.3	75	"	6.4	"	10.6	0	2	29	3	2	15	2	0	0	3	5	0	1	
Ramgarh	0830	"	"	"	"	27.1	25.1	24.3	30.3	85	"	5.5	"	2.9	0	0	25	5	3	6	0	4	0	7	0	6	0	
	1730	"	"	"	"	28.6	25.5	24.2	30.1	79	"	6.0	"	3.0	0	0	21	4	0	11	0	0	0	6	0	10	0	
Panchet Hills	0830	"	"	"	"	29.0	26.3	25.3	31.7	81	"	6.9	"	8.3	0	1	30	0	4	13	0	7	2	3	2	0	0	
	1730	"	"	"	"	29.8	26.5	25.3	32.0	81	"	6.9	"	6.1	0	1	27	1	2	15	0	7	2	1	0	3	0	
Durgapur	0830	"	"	"	"	28.7	26.6	25.6	33.2	83	"	"	"	16.4	0	12	18	0	1	5	11	3	5	2	3	1	0	
	1730	"	"	"	"	29.8	26.7	25.4	33.1	79	"	"	"	13.3	0	5	25	2	1	4	9	11	1	0	2	1	0	
Mahanadi Catchment																												
Baramul	0830	64	999.3	992.1	"	27.9	25.9	25.1	31.6	85	"	6.7	"	3.4	0	0	17	1	0	1	0	3	8	2	2	14	0	
	1730	"	996.9	989.2	"	28.8	25.7	24.7	30.7	85	"	7.9	"	3.6	0	0	17	0	2	0	1	0	9	2	3	14	0	
Hirakud	0830	159	999.8	982.2	"	27.8	25.3	24.1	30.2	81	"	6.7	"	5.9	0	0	26	0	1	3	0	7	9	3	2	5	1	
	1730	"	996.9	979.4	"	29.3	25.8	24.3	30.4	76	"	7.5	"	5.2	0	0	18	0	1	4	0	1	6	5	1	13	0	
Khijrawan	*0830	"	"	"	"	25.6	23.5	22.5	27.9	83	"	"	"	11.3	0	1	24	1	0	0	0	0	15	8	1	0	0	
	†1730	"	"	"	"	26.5	23.7	22.2	27.0	79	"	"	"	11.1	0	1	21	0	0	0	0	0	19	2	1	2	0	
Sonepur	0830	"	"	"	"	28.7	24.8	23.0	28.1	71	"	"	"	10.7	0	2	28	2	1	2	3	0	4	17	1	1	0	
Ginabhar	0830	"	"	"	"	25.9	24.1	22.8	28.2	82	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Bhimkund	0830	"	"	"	"	27.1	24.7	23.7	29.2	82	"	6.8	"	3.0	0	0	22	3	4	0	2	1	5	1	5	9	1	
	1730	"	"	"	"	27.5	25.0	23.9	29.6	82	"	6.9	"	2.5	0	0	22	1	2	0	6	1	7	2	2	9	1	
Narbada Catchment																												
Panasa	0830	"	"	"	"	25.4	23.9	23.3	28.4	88	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	27.8	24.7	23.5	28.8	79	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Bagra Tawa	0830	"	"	"	"	25.3	23.6	22.9	27.8	87	"	6.8	"	10.0	0	0	28	0	0	1	0	5	20	2	0	3	0	
	1730	"	"	"	"	28.2	24.5	23.1	27.8	78	"	6.9	"	8.3	0	0	26	0	0	0	0	3	19	4	0	5	0	
Thikri	0830	"	"	"	"	26.6	25.0	24.0	30.1	87	"	7.5	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Sabarmati Catchment																												
Jhadol	0830	"	"	"	"	24.4	23.4	22.8	27.3	91	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Dharoi	0830	"	"	"	"	26.2	24.6	23.7	29.6	87	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	29.5	25.4	23.4	29.3	72	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Ganga Catchment																												
Mukhim	0830	"	"	"	"	18.6	17.8	17.5	19.9	92	"	6.8	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	20.4	18.8	18.1	20.6	86	"	6.6	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Tehri	0830	"	"	"	"	25.2	23.4	22.5	27.6	86	"	6.8	"	1.3	0	0	13	0	7	0	1	3	0	1	1	18	0	
	**1130	"	"	"	"	29.3	23.4	22.2	26.8	66	"	6.4	"	2.8	0	0	20	1	3	1	7	2	3	2	1	6	0	
	1730	"	"	"	"	30.2	24.6	22.2	26.9	64	"	6.3	"	4.0	0	0	25	1	1	2	11	6	4	0	0	6	0	
Gandak Catchment																												
Gorkha	0830	"	"	"	"	22.5	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	23.5	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Pokhara	0830	"	"	"	"	24.9	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	26.8	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Nawalot	0830	"	"	"	"	24.7	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	25.3	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Jomosom	0830	"	"	"	"	17.9	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	19.1	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Timure	0830	"	"	"	"	20.5	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	1730	"	"	"	"	21.8	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Gogra Catchment (Trans Himalayan Region) Dalikh																												
	0830	"	"	"	"	21.9	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	† 1730	"	"	"	"	22.7	(a)	(a)	(a)	(a)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"

†Observations for 24 days.

*Observations for 25 days.

(a) Mean of 30 days.

**Observations for 26 days.

‡Observations for 27 days.

Division and station	Hour of observation I.S.T.	Height of barometer (corrected above mean sea level) in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km.p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Hydrometeorological Observatories—contd.																													
Gogra Catchment																													
Dandeldhura	0830	..	..	..	..	18.9	18.3	18.3	20.7	95	..	7.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.3	19.2	18.7	21.6	90	..	6.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	28.2	25.8	24.8	31.4	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	30.6	27.5	26.1	34.2	78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Katmandu*	0830	1324																											
	1130	..																											
	1730	..																											
Kosi Catchment																													
Chautara	0830	..	..	..	..	21.1	20.3	20.0	23.3	93	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	22.5	20.7	20.1	23.3	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga	0830	..	..	..	..	20.2	19.0	18.5	21.3	90	..	7.2	..	0.4	0	0	4	0	0	0	1	0	1	1	1	1	27	0	
	1130	..	..	..	..	22.9	20.7	19.6	22.8	82	..	6.8	..	0.9	0	0	9	1	0	0	1	4	1	2	0	22	0	0	
	1730	..	..	..	..	20.8	19.4	18.7	21.6	88	..	7.2	..	0.2	0	0	2	0	0	0	0	0	1	0	1	0	1	29	0
Barahshetra	0830	146	1001.2	985.0	..	27.6	25.8	25.1	31.9	86	..	6.5	..	4.2	0	0	26	1	0	1	0	0	10	6	8	5	0	0	
	1130	..	1000.4	984.3	..	29.7	26.5	25.2	32.0	77	..	6.9	..	7.2	0	0	28	0	0	1	0	0	16	10	1	3	0	0	
	1730	..	998.8	981.8	..	29.0	26.5	25.5	32.6	82	..	6.7	..	4.5	0	0	26	1	3	3	1	0	8	8	2	5	0	0	
Angbung	0830	..	..	..	..	23.1	22.1	21.5	25.6	91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	25.2	22.2	20.8	24.6	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	20.4	19.2	18.5	21.5	90	..	6.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	23.1	20.5	19.3	22.4	79	..	5.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.6	19.7	18.7	21.3	84	..	7.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	22.2	20.3	19.3	22.4	84	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	22.4	20.8	20.0	23.4	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	†0830	..	..	..	..	13.7	12.2	11.3	13.4	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.0	12.4	11.9	14.1	94	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur	0830	..	..	..	..	20.7	19.9	19.6	22.7	93	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.4	19.9	19.4	22.8	95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	0830	..	..	..	..	23.1	21.7	20.9	25.0	88	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	23.7	22.1	21.3	25.3	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																													
Gangtok	0830	1812	1447.7	815.1	..	18.7	18.2	17.9	20.6	95	..	6.8	..	1.9	0	0	17	5	1	0	0	7	1	2	1	14	0	0	
	1130	..	1441.8	814.7	..	20.5	19.4	18.9	21.9	90	..	6.6	..	4.8	0	0	29	1	4	0	7	3	9	3	2	2	0	0	
	1730	..	1426.3	813.1	..	19.3	18.6	18.2	21.0	93	..	7.3	..	3.6	0	0	16	1	1	0	2	8	3	1	0	15	0	0	
Geyzing	0830	..	..	..	..	20.9	20.1	19.8	23.1	93	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.5	20.2	19.5	22.9	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Data included under "Hill stations".

†Observations for 30 days.

MONTHLY MEANS OF UPPER WINDS, July, 1959 (Asadha 10—Sravana 9, 1881 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a.m.s.l. are given under Table IV and data above 9.0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km.a.g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a.m.s.l. Of these, the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No.	Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
1.	Agartala	23°53'	91°15'	17	28th Nov. 1951	0530	1730	2330
2.	Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330
3.	Amausi	26°45'	80°53'	132	20th Nov. 1950	0530	1730	2330
4.	Ambala	30°23'	76°46'	279	1st Apr. 1941	0530	1730	2330
5.	Amritsar	31°38'	74°52'	243	21st Jun. 1957	0530*	1730*	
6.	Anantapur	14°41'	77°37'	364	12th Feb. 1946	0530	1730	2330
7.	Asansol	23°41'	86°59'	135	29th May 1942	0530	1730	2330
8.	Baghdogra	26°38'	88°19'	140	7th Jun. 1953	0530	1730	2330
9.	Bairagarh	23°17'	77°21'	532	26th Feb. 1943	0530	1730	2330
10.	Bajpe	12°55'	74°53'	109	25th May. 1959	0530	1730	2330
11.	Bamrauli	25°27'	81°44'	103	28th Feb. 1930	0530*	1130	1730* 2330
12.	Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330
13.	Barcilly	28°22'	79°24'	180	12th Jan. 1943	0530	1730	
14.	Begumpet	17°27'	78°28'	543	1st Sep. 1929	0530	1730	2330
15.	Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730	
16.	Bhubaneshwar	20°15'	85°50'	54	5th Dec. 1942	0530	1730	2330
17.	Bhuj	23°15'	69°48'	90	14th Sep. 1937	0530	1730	2330
18.	Bikaner	28°00'	73°18'	229	18th Oct. 1946	0530	1730	2330
19.	Chikalhana	19°51'	75°24'	583	7th Oct. 1951	0530	1730	2330
20.	Cochin†	09°56'	76°14'	13	16th Mar. 1942	0530	1730	2330
21.	Darjeeling	27°03'	88°16'	2115	21st May 1956	0530	1730	
22.	Dehra Dun	30°19'	78°03'	692	1st Oct. 1958	0530	1730	
23.	Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730* 2330
24.	Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330
25.	Gannavaram	16°32'	80°48'	34	8th Apr. 1942	0530	1730	2330
26.	Gauhati	26°05'	91°43'	51	12th Mar. 1955	0530*	1130	1730* 2330
27.	Gaya	24°45'	84°57'	119	19th Mar. 1937	0530	1730	2330
28.	Gopalpur	19°16'	84°53'	24	15th Feb. 1946	0530	1730	2330
29.	Gorakhpur	26°45'	83°22'	83	5th Jan. 1943	0530	1730	
30.	Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330
31.	Imprial	24°51'	93°58'	805	8th Mar. 1952	0530	1730	2330
32.	Jabalpur	23°10'	79°57'	402	30th Jul. 1928	0530	1730	2330
33.	Jagdapur	19°05'	82°02'	562	25th Mar. 1948	0530	1730	2330
34.	Jaipur	26°49'	75°48'	404	6th Jun. 1953	0530	1730	2330
35.	Jamshedpur	22°49'	86°11'	147	23rd Jul. 1942	0530	1730	
36.	Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330
37.	Kodlupur	26°18'	73°01'	229	15th Oct. 1934	0530*	1130	1730* 2330
38.	Madras	13°00'	80°11'	29	8th Apr. 1926	0530*	1130	1730* 2330
39.	Minicoy	08°18'	73°00'	16	14th Apr. 1941	0530	1730	2330
40.	Mohanbari	27°29'	95°01'	112	1st Jun. 1948	0530	1730	2330
41.	Nagpur	21°06'	79°03'	316	23rd Apr. 1943	0530*	1130	1730* 2330
42.	Nanpara	27°50'	81°30'	142	23rd Apr. 1957	0530	1730	
43.	New Delhi	28°35'	77°12'	227	20th Oct. 1936	0530*	1130	1730* 2330
44.	Poon	18°32'	73°51'	593	5th Jan. 1925	0530	1730	2330
45.	Port Blair	11°40'	92°43'	93	29th Oct. 1945	0530*	1130	1730* 2330
46.	Raipur	21°14'	81°39'	308	15th Jul. 1944	0530	1730	2330
47.	Raxaul	26°59'	84°51'	83	28th Oct. 1957	0530	1730	
48.	Santa Cruz	19°07'	72°51'	27	14th May 1933	0530*	1130	1730* 2330
49.	Tezpur	26°37'	92°47'	79	12th Aug. 1932	0530	1730	2330
50.	Tiruchirapalli	10°46'	78°43'	96	22nd Jun. 1936	0530	1730	2330
51.	Trivandrum	08°29'	76°57'	73	8th Dec. 1928	0530*	1130	1730* 2330
52.	Udaipur	24°35'	73°42'	587	24th Jun. 1947	0530	1730	2330
53.	Vengurla	15°52'	73°38'	8	22nd Nov. 1941	0530	1730	2330
54.	Veraval	20°54'	70°22'	17	13th Oct. 1941	0530*	1130	1730* 2330
55.	Visakhapatnam	17°43'	83°14'	10	24th Sep. 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.4	1.9	129	31	2.5	1.6	165	31	2.3	1.9	148	30	3.1	2.4	215	31	4.3	3.0	206	31	3.3	2.5	209				
0.15 a. g.	26	6.2	5.8	142	30	5.2	4.1	180	30	6.3	5.3	153	25	6.5	5.0	217	23	6.1	4.4	206	26	6.7	5.4	208				
0.3 a. m. s. l.	26	7.8	7.1	161	30	6.2	5.1	177	30	7.5	6.6	172	25	7.8	6.5	226	23	6.3	5.1	215	26	7.8	6.5	212				
0.6 "	26	8.9	8.0	167	30	7.6	6.6	178	30	8.6	7.7	176	18	9.1	7.6	237	22	6.2	4.8	231	22	8.5	7.4	234				
0.9 "	25	8.5	7.6	172	30	8.0	7.1	177	29	8.6	7.6	178	12	9.4	8.7	253	16	5.6	4.0	235	17	8.2	7.1	242				
1.5 "	22	7.1	5.6	165	27	8.3	7.4	170	24	7.9	6.6	180	7	9.1	8.1	235	12	6.8	5.5	238	11	5.9	4.3	244				
2.1 "	21	6.7	5.1	164	22	8.1	6.7	162	21	7.7	6.2	175	4	6.2	5.9	242	8	6.9	5.8	247	7	4.8	3.1	256				
3.0 "	17	5.6	4.6	156	19	7.1	5.1	160	15	6.2	4.3	162	2	3.9	3.7	267	5	3.6	2.4	290	4	3.4	1.3	349				
3.6 "	13	5.1	4.3	196	15	6.5	4.1	155	10	5.8	3.5	139	1	2.6	2.6	280	4	2.7	1.2	282								
4.5 "	9	6.2	5.4	137	11	4.8	3.1	115	6	4.9	3.8	147					2	4.1	2.6	278								
5.4 "	8	6.8	6.1	122	9	5.6	3.8	118	4	8.2	4.1	140					1	3.6	3.6	130								
6.0 "	7	8.1	6.9	119	7	5.3	4.2	092	1	6.7	6.7	080					1	7.7	7.7	120								
7.2 "	2	8.5	8.4	102	1	10.3	10.3	095																				
9.0 "					1	13.4	13.4	100																				

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.4	2.3	095	31	3.8	1.4	083	31	2.6	1.5	073	31	2.8	2.1	121	31	2.7	1.9	108	31	2.7	2.0	119				
0.15 a. g.	28	6.4	2.7	090	31	5.1	2.3	085	31	6.4	4.1	105	30	7.4	5.5	118	31	6.6	4.1	104	30	7.9	6.1	114				
0.3 a. m. s. l.	28	6.8	3.1	098	31	5.3	2.0	088	31	6.7	4.0	103	30	3.8	2.9	118	31	4.1	2.5	105	30	3.9	3.0	111				
0.6 "	23	9.6	4.8	120	30	7.0	4.0	106	31	8.3	5.2	108	30	9.1	7.0	136	31	6.9	3.9	105	30	8.4	6.6	122				
0.9 "	19	8.8	3.5	134	30	7.9	4.2	117	29	7.9	5.0	118	30	9.0	6.6	141	31	6.4	3.3	120	30	8.4	6.5	127				
1.5 "	17	8.4	3.1	125	27	7.6	3.3	130	26	6.8	4.1	117	27	8.9	4.2	136	31	6.6	2.9	148	30	7.3	4.9	140				
2.1 "	13	8.2	3.5	120	23	7.3	3.0	131	19	5.4	2.1	127	22	8.3	2.6	121	29	7.1	1.6	150	29	7.0	3.5	135				
3.0 "	6	4.1	3.3	073	15	6.2	1.6	103	10	4.8	2.0	090	17	7.3	1.3	358	27	7.4	0.1	147	24	6.6	1.2	145				
3.6 "	4	4.1	3.7	105	13	5.2	1.3	067	2	4.9	3.0	433	12	6.6	4.0	335	23	5.8	1.2	353	5	3.9	0.5	323				
4.5 "	2	5.1	4.0	372	8	5.9	2.4	027					7	4.9	2.6	360	17	5.8	0.8	295	2	4.6	2.3	331				
5.4 "	1	4.6	4.6	120	5	7.2	3.1	096					6	5.0	2.3	360	8	3.6	1.5	295	1	6.7	6.7	315				
6.0 "	1	7.7	7.7	095	3	6.8	6.3	095					5	4.4	2.3	028	7	5.5	2.1	293	1	9.3	9.3	320				
7.2 "	1	10.8	10.8	110	3	7.6	7.4	093					4	7.6	2.4	293	3	7.7	5.3	299								
9.0 "	1	10.8	19.8	105	2	11.3	10.1	089					4	8.4	3.0	271	2	14.7	14.2	269								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

Station	AMRITSAR								ANANTAPUR												ASANSOL			
	0530*				1730*				0530				1730				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.7	1.6	140	31	1.6	0.9	081	31	4.5	4.2	256	31	8.7	8.5	265	31	6.7	6.5	262	31	1.6	0.7	118
0.15 a. g.	28	2.8	1.6	135	31	1.6	0.9	081	29	8.2	8.1	253	28	14.4	11.3	260	29	10.4	10.2	253	25	5.1	2.0	123
0.3 a. m. s. l.	28	2.8	1.6	135	31	1.6	1.0	075													25	5.3	2.0	125
0.6 "	27	7.0	4.7	150	31	4.6	2.3	109	29	10.0	10.0	253	28	15.0	11.8	260	29	11.1	11.0	255	20	6.4	1.6	115
0.9 "	27	6.4	4.7	150	31	3.9	1.8	141	29	14.6	14.5	262	28	15.4	15.2	261	29	13.7	13.6	260	15	5.5	0.6	312
1.5 "	27	5.7	2.9	165	31	4.1	1.6	180	29	18.5	18.3	270	27	15.6	15.4	269	29	17.9	17.8	269	15	5.0	1.0	080
2.1 "	27	5.3	1.5	186	31	4.6	1.4	235	26	16.9	16.7	277	26	17.9	17.7	271	29	15.9	15.7	274	10	6.0	1.8	091
3.0 "	28	5.7	1.5	247	31	5.0	1.6	280	24	13.5	13.2	283	18	15.9	15.6	275	21	12.7	12.6	281	6	6.3	3.7	071
3.6 "	28	5.1	1.1	265	31	5.6	2.9	270	13	10.6	9.2	276	9	14.8	11.6	279	11	8.5	8.3	280	5	7.0	2.2	097
4.5 "	27	7.1	2.3	275	31	5.8	2.7	312	8	9.1	9.0	270	5	14.5	11.4	272	6	8.6	8.3	267	4	4.2	1.1	191
5.4 "	27	6.7	3.1	250	31	6.8	3.2	285	5	9.0	8.6	267	2	13.0	17.9	277					3	1.7	0.2	159
6.0 "	27	7.2	2.6	230	31	7.9	4.6	274	3	7.1	6.8	251	1	17.0	17.0	285					1	2.6	2.6	020
7.2 "	27	7.6	4.4	260	30	10.2	6.6	260	1	7.7	7.7	300	1	14.9	14.9	280								
9.0 "	20	8.7	6.4	270	25	9.3	6.9	256					1	12.4	12.4	285								

Station	ASANSOL								BAGHDGRA												BAIRAGARH			
	1730				2330				0530				1730				2330				0530			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.8	1.2	130	31	1.9	1.0	120	31	2.1	1.6	060	31	2.6	1.9	078	31	2.2	1.6	045	31	4.4	3.4	260
0.15 a. g.	30	5.0	3.2	129	29	5.5	3.1	135	21	4.9	1.8	074	26	3.9	2.7	080	22	4.1	2.9	075	25	8.2	6.4	256
0.3 a. m. s. l.	30	5.0	3.1	132	29	5.8	3.6	140	21	4.9	1.9	078	26	3.9	3.0	080	22	4.1	2.9	080				
0.6 "	30	6.2	4.3	133	29	6.8	4.4	150	21	5.7	4.7	092	26	4.7	3.7	092	22	4.1	2.7	090	25	7.3	5.8	251
0.9 "	29	6.7	4.5	139	24	6.3	3.6	157	20	6.0	4.8	093	25	5.6	5.6	102	20	4.5	2.8	090	22	10.2	7.5	261
1.5 "	25	6.8	3.9	137	21	5.4	3.2	153	17	5.9	5.0	091	18	5.1	4.2	110	18	4.5	3.4	096	10	9.2	4.7	245
2.1 "	19	6.8	4.1	134	15	5.9	2.6	148	12	5.6	4.9	088	12	4.9	4.1	110	15	5.6	4.6	102	8	6.4	2.9	231
3.0 "	15	7.2	4.1	140	10	5.8	2.1	146	9	5.7	4.7	104	7	5.3	4.4	115	5	4.4	3.9	108	6	5.9	0.7	074
3.6 "	11	6.6	3.2	155	10	4.5	1.8	121	7	6.2	5.9	097	5	5.9	5.2	078	1	2.6	2.5	115	4	6.8	1.6	143
4.5 "	8	4.9	2.3	109	3	3.4	2.8	141	1	7.7	7.7	080	2	6.9	2.0	230					3	6.7	4.2	091
5.4 "	6	5.2	3.1	085	2	5.4	5.2	109	1	9.3	9.3	090	1	9.8	9.8	080					1	6.7	6.7	065
6.0 "	5	5.5	3.9	080	2	5.7	5.5	105	1	12.9	12.9	095	1	11.8	11.8	045					1	6.2	6.2	065
7.2 "	3	6.2	4.6	053					1	10.8	10.8	100												
9.0 "	2	10.0	5.7	060																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

July 1959 (Asa-aha 10—Sravana 9, 1881 Saka)

Station	BAIRAGARH								BAJPE								BAMRAULI							
	1730				2330				0530				1730				2330				0530*			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.3	3.1	249	31	3.5	2.5	150	31	3.5	3.1	259	31	3.9	3.8	270	31	3.3	2.8	256	31	2.9	0.9	091
0.15 a. g.	28	7.0	5.5	239	23	7.9	6.3	247	19	8.0	7.7	250	22	7.2	6.9	261	20	7.3	6.9	251	28	7.0	2.7	096
0.3 a. m. s. l.									19	8.7	8.5	254	22	8.5	8.3	260	20	8.0	7.8	252	28	7.0	1.5	095
0.6 "	28	6.7	5.2	236	23	7.2	5.8	244	17	12.0	11.9	259	22	10.5	10.4	267	19	10.8	10.5	261	27	7.9	2.9	125
0.9 "	27	7.4	5.6	250	22	9.1	7.2	258	12	15.8	15.7	263	17	11.1	10.9	271	15	12.3	12.3	271	27	8.0	2.5	125
1.5 "	20	7.7	5.3	261	19	8.3	5.5	258	4	17.7	17.5	279	7	11.5	11.3	278	8	13.2	13.2	277	27	7.7	2.5	111
2.1 "	16	7.3	3.9	260	15	6.1	2.5	245	2	14.7	14.5	276	2	8.2	8.2	284	5	14.2	14.1	281	27	7.9	3.3	110
3.0 "	8	4.8	1.4	312	11	6.0	0.9	016	1	9.8	9.8	280	1	10.3	10.3	270					27	7.5	3.7	106
3.6 "	5	5.3	2.1	253	3	6.5	6.5	095	1	10.3	10.3	275	1	10.3	10.3	270					27	6.9	3.2	138
4.5 "	3	4.1	2.2	035	1	7.2	7.2	100													27	6.5	3.9	115
5.4 "	1	5.7	5.7	300																	27	6.0	4.0	109
6.0 "																					27	6.6	4.9	104
7.2 "																					27	7.6	6.0	096
9.0 "																					24	8.6	7.1	096

Station	BAMRAULI												BANGALORE											
	1130				1730*				2330				0530				1730				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.1	0.5	050	31	3.4	0.9	087	31	2.4	1.3	104	31	5.1	4.9	263	31	6.1	5.8	257	31	5.5	5.3	266
0.15 a. g.	29	6.1	1.2	132	31	5.8	1.8	088	30	6.3	2.6	107	5	9.4	9.3	252	29	9.4	9.2	260	17	8.3	8.2	253
0.3 a. m. s. l.	29	6.2	0.8	084	31	5.9	2.2	086	30	6.6	3.0	101												
0.6 "	29	4.7	1.9	085	31	6.4	2.1	090	30	7.6	3.7	108												
0.9 "	23	5.9	1.5	099	31	7.1	2.9	088	29	7.7	3.7	110												
1.5 "	15	6.1	0.8	158	31	7.0	2.6	104	23	7.5	2.4	123	4	16.9	16.8	264	25	12.7	12.6	263	15	13.1	13.1	268
2.1 "	6	5.0	1.6	181	31	6.6	2.7	107	16	6.1	1.6	127	4	18.5	18.3	277	19	12.9	12.8	275	10	12.0	11.9	275
3.0 "	2	2.8	2.7	112	31	6.7	3.1	104	11	3.9	1.0	135					7	13.2	13.1	280	7	8.6	8.0	279
3.6 "	1	3.6	3.6	075	31	6.3	3.2	108	2	1.0	1.0	185					3	11.0	10.9	275	5	5.5	4.7	275
4.5 "					31	7.2	3.4	040									1	6.2	6.2	280	1	3.1	3.1	285
5.4 "					31	6.6	3.9	076									1	7.7	7.7	270				
6.0 "					31	6.4	3.6	100									1	7.7	7.7	285				
7.2 "					31	7.9	5.6	089									1	7.7	7.7	315				
9.0 "					26	8.9	7.6	087																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

July 1959 (Asa dha 10—Srawana 9, 1881 Saka)

Station	BAREILLY								BEGUMPET												BHAGALPUR							
	0530				1730				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.4	1.9	079	31	2.7	1.9	094	31	5.9	5.6	270	31	6.0	5.0	273	31	6.1	5.6	224	31	2.4	2.0	093				
0.15 a. g.	28	7.0	4.8	091	30	5.2	3.2	102	25	10.3	10.2	264	21	10.1	9.5	258	24	11.5	11.2	260	28	5.3	4.2	099				
0.3 a. m. s. l.	28	6.3	4.4	089	30	5.1	3.3	099													28	5.9	4.2	110				
0.6 "	26	10.5	3.8	171	30	6.7	4.5	110	25	7.2	7.0	261	24	8.4	7.6	099	24	6.7	6.5	261	27	6.0	3.7	124				
0.9 "	25	11.1	7.7	120	29	7.1	4.4	114	25	14.9	14.2	272	24	11.3	11.0	261	24	15.9	15.5	267	26	6.2	3.7	118				
1.5 "	24	11.2	7.1	118	26	8.1	4.2	121	22	19.6	19.2	280	24	13.4	13.1	269	23	18.2	18.1	275	24	5.8	3.8	115				
2.1 "	19	9.5	6.3	108	22	7.9	2.0	126	16	17.1	16.7	285	20	13.1	12.9	274	11	16.1	15.7	274	21	5.7	3.7	119				
3.0 "	16	7.3	4.0	096	28	6.8	1.4	095	11	15.7	15.3	290	12	12.0	11.5	283	3	9.3	9.1	291	14	5.7	4.0	130				
3.6 "	12	7.7	3.7	104	18	6.3	0.9	037	4	8.2	6.9	292	3	11.7	11.6	283	1	5.7	5.7	315	8	3.9	3.1	126				
4.5 "	8	4.4	1.9	109	16	5.1	0.3	094	1	7.2	7.2	210									7	4.1	3.7	112				
5.4 "	4	3.8	3.1	092	10	5.2	2.7	074	1	15.4	15.4	255									7	6.4	5.1	110				
6.0 "	4	5.4	3.8	110	8	5.4	4.2	098	1	1.0	1.0	270									7	7.4	6.1	112				
7.2 "	4	5.3	5.2	104	6	5.2	4.5	126													2	4.4	3.3	086				
9.0 "	3	8.6	7.6	104	2	12.6	9.9	220																				

Station	BHAGALPUR				BHUBANESHWAR								BHUJ															
	1730				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.1	1.9	101	31	2.3	1.0	254	31	3.8	1.9	221	31	3.3	2.1	235	31	4.3	2.9	246	30	6.2	5.3	237				
0.15 a. g.	30	4.7	4.2	103	28	6.6	3.6	253	27	6.8	2.8	199	27	8.1	4.1	236	27	7.8	6.2	242	29	9.6	8.5	233				
0.3 a. m. s. l.	30	5.9	5.0	108	28	8.2	5.0	265	27	7.1	2.3	203	27	8.5	4.5	240	27	8.8	7.4	247	29	9.9	8.7	235				
0.6 "	30	6.9	5.8	120	28	9.5	5.6	273	26	7.4	2.2	212	27	9.6	4.5	240	26	10.9	9.5	247	29	10.6	9.3	241				
0.9 "	30	7.1	5.9	125	27	10.5	7.0	281	25	7.6	1.5	237	26	10.1	4.6	248	23	10.9	8.1	252	27	10.0	8.3	239				
1.5 "	29	7.5	5.3	133	24	10.9	7.6	292	19	7.8	2.1	343	24	9.3	3.4	278	15	9.3	6.4	237	19	8.1	4.4	230				
2.1 "	28	7.2	4.5	234	18	9.5	5.5	292	16	7.0	2.6	320	18	8.3	2.2	312	11	7.5	1.0	152	13	7.4	2.2	244				
3.0 "	25	6.6	4.6	135	14	7.8	2.5	268	12	8.5	1.9	262	10	6.9	0.4	297	6	6.8	3.4	027	10	7.1	0.6	201				
3.6 "	22	6.1	4.0	125	10	7.3	1.8	202	12	8.9	0.9	245	2	6.7	6.6	091	1	4.6	4.6	035	8	5.8	2.3	265				
4.5 "	18	5.6	3.1	111	6	6.9	1.9	237	5	7.9	2.2	108									7	7.4	5.4	093				
5.4 "	14	6.3	3.1	093	2	11.3	5.7	134	4	8.4	7.5	091									6	8.0	6.9	092				
6.0 "	13	5.3	3.0	107	2	12.9	4.5	143	4	10.0	9.7	091									4	9.4	8.4	091				
7.2 "	8	7.5	7.2	105					1	16.5	16.5	110									2	10.6	10.2	097				
9.0 "	3	9.8	9.1	070					1	20.1	20.1	105									2	10.8	10.6	074				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

July 1959 (Asadha 10—Srawana 9, 1881 Saka)

Station	GAUHATI																GAYA							
	0530*				1130				1730*				2330				0530				1730			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.1	0.6	060	31	1.7	1.0	024	31	1.4	0.4	234	31	1.0	0.3	213	31	2.3	1.5	100	31	3.0	1.6	103
0.15 a. g.	31	3.2	1.2	075	28	2.3	2.2	028	31	3.0	0.5	283	26	3.1	1.0	219	29	9.2	3.1	101	30	5.1	2.8	106
0.3 a. m. s. l.	31	3.5	1.0	065	28	3.0	2.0	031	31	3.1	0.4	285	26	3.2	0.8	237	29	6.0	3.3	109	30	5.6	3.1	107
0.6 "	31	3.8	1.0	050	28	3.1	1.7	057	31	3.5	0.5	305	25	3.4	0.7	254	29	7.3	3.3	134	30	5.9	3.1	114
0.9 "	31	4.2	0.8	106	24	4.0	2.0	105	31	3.8	0.3	263	25	4.0	0.7	218	26	7.9	3.0	147	29	6.1	3.3	120
1.5 "	31	5.0	1.1	203	22	4.4	2.3	157	31	4.7	2.4	204	25	3.7	1.9	196	23	6.9	2.1	130	27	6.8	3.2	141
2.1 "	31	5.4	1.9	204	20	5.3	2.3	025	31	5.1	3.1	196	19	4.2	1.9	181	21	5.9	2.2	105	22	6.2	3.1	130
3.0 "	31	5.7	2.6	192	12	4.3	2.2	151	30	5.8	3.1	190	5	4.1	3.8	143	18	5.6	2.5	123	20	6.7	4.6	127
3.6 "	31	5.8	2.6	188	9	3.8	1.1	147	30	6.0	2.3	173	2	5.1	5.1	091	10	4.4	1.6	136	16	6.7	5.5	118
4.5 "	31	5.1	2.4	193	3	5.7	5.6	122	29	6.2	2.0	155	1	6.7	6.7	110	9	5.0	2.4	128	15	6.1	4.6	119
5.4 "	31	5.4	2.5	168	2	8.0	7.5	104	29	5.9	2.2	135					7	6.5	3.2	143	12	6.0	4.5	088
6.0 "	31	5.5	2.5	149	2	6.4	5.4	104	29	5.8	2.5	130					6	7.2	3.1	135	12	6.4	4.9	084
7.2 "	31	5.7	3.2	111	1	8.7	8.7	110	29	5.9	3.0	107					5	6.2	1.2	175	10	6.9	5.7	088
9.0 "	26	7.3	5.1	098					26	7.7	6.0	076					3	6.7	5.5	106	4	8.0	3.1	069

Station	GAYA				GOPALPUR								GORAKHPUR											
	2330				0530				1730				2330				0530				1730			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.7	1.6	133	31	2.3	1.7	231	31	6.1	4.9	207	31	3.6	2.6	225	31	2.4	1.8	084	31	2.2	1.8	091
0.15 a. g.	30	5.5	2.9	129	29	7.3	4.7	247	30	8.9	6.6	213	28	7.8	5.3	245	27	6.4	4.9	086	30	5.3	3.9	093
0.3 a. m. s. l.	30	5.7	2.9	129	29	7.9	4.8	263	30	8.5	5.8	218	28	7.7	5.2	254	27	8.0	6.1	095	30	6.1	4.3	092
0.6 "	30	7.1	3.9	143	29	3.2	4.9	280	29	7.5	3.7	250	28	7.3	4.8	266	23	9.3	6.4	115	30	7.4	5.5	099
0.9 "	29	8.1	4.7	148	29	3.7	5.7	290	28	7.9	6.3	282	28	7.5	4.9	286	18	8.9	6.2	114	30	7.8	5.9	103
1.5 "	27	6.3	3.0	153	28	11.6	9.1	295	26	9.0	6.7	290	26	8.1	6.0	312	18	8.8	6.1	112	28	8.5	6.6	118
2.1 "	19	6.4	2.2	162	22	10.9	7.9	286	21	9.7	7.4	296	18	8.0	6.0	297	15	8.4	5.7	109	25	7.3	5.5	125
3.0 "	14	5.2	2.0	106	12	9.0	5.6	278	12	8.4	5.8	288	11	7.3	5.1	275	12	7.3	6.5	110	21	7.0	5.3	125
3.6 "	7	5.8	1.0	060	6	9.3	7.1	272	7	7.9	3.3	270	7	6.2	4.0	283	10	7.3	6.7	108	20	6.7	5.3	125
4.5 "	1	3.6	3.6	095	3	7.7	6.6	227	4	9.9	5.0	290	3	4.3	3.8	004	5	4.8	4.7	104	16	6.2	3.9	124
5.4 "					1	3.1	3.1	245	3	10.3	9.6	280	2	4.0	1.9	005	4	5.0	5.0	109	11	5.0	2.9	118
6.0 "					1	1.5	1.5	340	3	8.2	7.8	279	1	6.2	6.2	001	3	4.5	4.4	113	9	4.5	1.8	128
7.2 "									1	12.9	12.9	285					2	7.5	6.1	097	8	5.0	2.5	070
9.0 "									1	4.1	4.1	305									4	6.4	6.0	077

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

July 1959 (Asadha 10—Srawana 9, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR								JHARSUGUDA											
	0530				1730				2330				0530				1730				0530											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	2.1	0.3	069	31	9.5	0.4	105	31	2.1	0.4	160	31	1.3	0.3	072	31	2.2	0.4	097	31	2.1	0.8	225								
0.15 a. g.	30	5.7	0.9	271	29	5.0	0.9	154	30	6.9	2.6	209	28	3.4	0.4	120	29	4.2	1.1	119	23	5.7	1.6	216								
0.3 a.m.s. l.													28	3.6	0.6	137	29	4.3	1.2	135	23	4.5	1.2	228								
0.6 "	29	6.2	1.6	282	29	5.5	0.7	122	30	7.7	2.9	215	28	5.9	1.2	205	29	5.3	2.0	150	23	7.7	3.3	243								
0.9 "	24	8.2	3.3	273	29	5.3	1.0	113	29	8.5	2.8	225	28	7.0	1.3	220	29	5.9	2.0	141	23	8.4	4.2	254								
1.5 "	18	5.6	2.4	295	28	6.1	1.9	066	28	6.7	0.9	219	16	7.7	1.6	110	26	6.6	1.4	110	19	9.2	4.5	286								
2.1 "	12	4.3	1.1	038	16	5.6	0.7	034	26	4.7	1.2	044	15	7.5	2.3	109	21	6.0	0.5	187	15	8.2	0.8	323								
3.0 "	9	4.2	2.5	124	9	4.5	1.4	326	17	5.7	1.7	020	11	6.1	4.0	087	19	6.2	1.0	190	13	7.8	2.2	030								
3.6 "	7	3.3	1.7	132	9	6.2	1.2	359	9	5.1	3.0	075	6	5.5	4.0	097	13	5.2	0.9	203	7	9.6	6.7	120								
4.5 "	3	3.2	1.1	146	6	5.3	0.6	357	4	6.4	3.2	076	5	5.5	4.2	115	6	6.8	1.7	085	1	4.1	4.1	001								
5.4 "	1	5.1	5.1	100	4	7.3	1.8	256	4	7.1	5.0	103	3	7.4	6.9	112	2	5.7	4.3	115												
6.0 "	1	8.7	8.7	110	3	10.3	3.4	288	2	6.4	6.2	095	2	4.4	3.1	083	2	7.5	1.8	088												
7.2 "	1	9.8	9.8	130	2	6.9	4.3	100	1	6.2	6.2	100	1	10.3	10.3	090																
9.0 "																																

Station	JHARSUGUDA								JODHPUR																			
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	2.7	1.2	224	25	3.2	1.6	233	31	3.3	2.0	234	31	3.6	1.6	227	31	4.4	2.7	208	31	3.3	1.9	210				
0.15 a. g.	29	5.3	2.2	210	23	5.9	2.5	222	31	4.4	2.5	230	30	5.2	2.9	213	31	4.3	2.7	205	28	7.4	3.7	222				
0.3 a.m.s. l.	29	5.3	2.3	207	23	5.4	1.7	210	31	3.9	2.3	230	30	5.0	2.6	212	31	4.4	2.7	205	29	5.8	2.7	218				
0.6 "	28	6.2	2.7	233	23	7.6	3.4	245	31	6.0	3.4	230	30	5.6	2.7	212	31	5.4	2.6	205	28	8.4	3.8	222				
0.9 "	28	6.6	2.3	238	21	7.9	2.8	246	31	7.2	4.3	222	30	6.5	2.6	219	30	6.1	2.6	209	28	8.3	3.3	204				
1.5 "	23	8.2	1.7	241	16	8.1	2.7	282	31	6.9	2.2	190	21	6.0	1.9	220	30	6.0	1.5	217	24	6.4	2.6	157				
2.1 "	18	8.1	1.3	193	11	6.8	1.4	301	31	5.8	1.5	120	14	6.1	0.7	310	30	6.1	0.3	277	19	4.6	2.3	115				
3.0 "	6	8.7	1.2	342	5	4.6	3.3	169	31	6.4	3.4	075	7	5.5	1.7	089	30	6.0	2.1	046	16	5.7	3.5	080				
3.6 "	2	11.1	3.9	129	1	4.6	4.6	070	30	6.7	4.0	070	5	4.2	2.3	075	30	6.9	2.6	059	1	2.6	2.6	035				
4.5 "									30	7.3	4.4	070	4	3.9	2.8	060	30	8.2	3.8	060								
5.4 "									29	7.6	5.1	075	2	6.7	3.6	104	29	8.6	3.7	081								
6.0 "									29	8.1	5.3	085	2	3.1	1.0	102	28	8.4	3.1	080								
7.2 "									27	8.4	7.3	090					24	8.3	2.8	095								
9.0 "									22	9.0	7.4	100					17	8.4	4.4	088								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

July 1959 (Asadha 10—Srawana 9, 1881 Saka)

Station	MADRAS																MINICOY							
	0530*				1130				1730*				2330				0530				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	3.4	3.2	254	31	5.5	5.1	268	31	3.7	1.4	220	31	4.2	3.2	221	31	5.7	5.5	265	31	5.2	5.0	265
0.15 a. g.	31	3.3	3.5	251	31	7.7	7.2	264	31	5.2	2.4	220	30	8.3	6.7	236	31	8.6	8.3	259	31	9.0	8.7	260
0.3 a. m. s. l.	31	8.5	8.2	263	31	7.9	7.5	264	31	5.9	3.1	235	30	9.4	8.1	246	31	9.2	9.0	262	31	10.3	9.9	260
0.6 „	31	11.1	10.9	270	31	8.9	8.6	261	31	7.1	5.3	262	30	10.7	10.0	256	31	11.5	11.4	266	31	11.9	11.5	264
0.9 „	31	13.5	13.2	278	31	10.0	9.8	266	31	8.3	7.9	270	30	11.0	10.6	265	31	13.2	12.9	271	31	14.1	13.7	268
1.5 „	31	15.0	14.9	284	30	14.5	14.2	279	31	11.1	10.9	275	30	11.9	11.7	275	31	13.5	13.3	271	31	16.2	15.8	276
2.1 „	31	13.8	13.6	286	30	14.7	14.3	258	31	12.9	12.5	277	26	12.4	12.0	278	26	13.1	12.9	278	31	15.6	15.2	277
3.0 „	31	12.1	11.7	282	25	12.4	11.9	260	31	13.3	12.8	282	11	10.6	9.8	281	12	9.1	8.7	281	26	13.0	12.7	277
3.6 „	31	11.7	10.9	277	19	11.2	10.5	274	31	12.9	12.3	280					4	9.6	9.2	270	22	11.5	11.1	280
4.5 „	31	11.7	11.1	275	12	10.5	10.1	274	31	11.3	10.7	278									8	10.5	10.1	286
5.4 „	31	9.6	8.5	280	8	10.0	9.8	274	31	9.2	8.2	281									7	10.5	9.9	290
6.0 „	31	8.1	6.5	285	7	7.0	6.8	273	30	7.9	6.8	289									6	11.0	8.3	276
7.2 „	31	5.8	4.1	307	4	4.0	3.7	297	30	6.4	4.0	300									2	10.0	6.2	252
9.0 „	28	8.7	7.3	089	1	1.5	1.5	145	29	8.6	5.5	074												

Station	MINICOY				MOHANBARI								NAGPUR											
	2330				0530				1730				2330				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	5.6	5.4	265	31	0.6	0.5	075	31	0.6	0.5	077	31	0.9	0.5	057	31	2.8	2.3	250	31	5.3	4.3	260
0.15 a. g.	28	8.1	7.8	268	23	3.8	1.2	088	29	2.3	0.9	065	27	3.9	1.9	064	27	7.3	6.4	259	28	8.5	7.4	264
0.3 a. m. s. l.	28	8.5	8.2	260	23	4.2	1.9	081	29	2.3	0.9	070	27	3.7	1.8	070								
0.6 „	28	10.4	10.0	266	23	3.9	1.4	101	29	2.4	0.9	118	27	3.2	1.1	090	27	9.0	8.0	266	28	8.3	6.8	267
0.9 „	28	12.3	12.0	273	21	3.9	0.8	120	27	2.7	0.5	155	27	3.1	0.8	143	26	11.6	10.2	270	25	9.3	7.5	274
1.5 „	28	13.3	12.8	278	16	3.4	1.0	151	22	3.1	1.8	197	23	3.6	2.5	208	26	12.0	11.1	279	14	10.0	6.6	292
2.1 „	26	11.7	11.2	280	16	3.3	1.1	115	22	3.0	2.6	197	19	3.5	2.2	209	25	10.9	9.6	278	9	10.7	8.0	281
3.0 „	15	7.8	7.2	290	10	4.6	1.5	113	20	3.9	3.1	197	13	4.4	3.0	203	21	8.5	6.3	281	4	8.7	8.0	319
3.6 „	4	5.1	5.1	285	8	4.5	2.2	097	18	3.8	3.3	215	5	4.8	3.4	217	17	8.2	5.0	286	3	2.6	1.9	329
4.5 „	2	5.1	3.6	230	4	3.9	0.8	274	13	5.0	3.9	242	2	5.1	5.0	162	17	6.5	2.6	309				
5.4 „					1	6.2	6.2	255	10	4.6	2.0	159	2	4.4	2.1	168	16	7.4	2.0	010				
6.0 „									10	4.7	2.0	151	2	4.1	2.1	143	15	7.5	2.5	054				
7.2 „									6	7.6	4.3	105					15	8.5	4.3	089				
9.0 „																	7	10.2	4.5	097				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

July 1959 (Asa:ha 10—Sravana 9, 1881 Saka)

Station	NAGPUR				NANPARA				NEW DELHI																			
	1730*				2330				0530				1730				0530*				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.5	3.6	271	31	2.6	1.9	248	31	2.3	1.6	098	31	3.2	1.5	099	31	1.7	0.9	117	31	3.9	1.4	129				
0.15 a. g.	31	8.0	6.6	266	30	6.5	3.6	257	24	3.1	6.3	106	23	6.0	3.3	102	31	3.4	3.9	143	23	5.3	2.4	115				
0.3 a. m. s. l.									24	8.6	6.6	109	28	6.2	3.7	107	31	7.6	3.9	143	28	4.8	2.2	112				
0.6 "	31	8.4	7.0	267	30	7.9	6.2	270	22	11.9	9.7	113	27	7.6	4.5	111	31	3.2	3.5	144	28	6.0	2.7	110				
0.9 "	31	9.8	8.4	271	30	9.8	7.9	277	21	12.5	10.4	113	27	8.3	5.1	117	31	3.5	4.5	128	25	6.7	2.8	116				
1.5 "	31	11.0	9.2	279	26	10.0	8.3	278	20	11.6	9.9	119	24	8.0	4.9	095	31	8.4	2.1	136	22	7.9	3.0	097				
2.1 "	30	10.0	8.1	277	19	9.3	7.7	266	14	9.6	7.8	116	20	8.1	7.1	121	31	8.1	2.5	087	16	6.8	4.5	110				
3.0 "	25	8.9	6.9	281	3	7.9	4.5	278	7	6.2	6.0	116	12	6.5	5.5	119	31	7.6	2.7	097	14	5.3	0.3	108				
3.6 "	24	8.3	5.7	254	2	3.9	3.3	049	7	4.8	4.3	121	5	3.0	2.7	139	31	6.9	3.0	079	12	5.9	4.0	099				
4.5 "	19	6.5	2.0	303	1	2.6	2.6	035	2	2.8	2.8	112	3	5.1	2.1	109	31	6.0	2.6	051	10	4.1	2.3	070				
5.4 "	18	8.1	1.9	008	1	6.2	6.2	080					3	4.0	1.9	117	31	5.3	2.1	038	7	4.4	1.9	067				
6.0 "	18	6.7	1.9	056													31	5.3	2.2	082	7	5.5	2.2	096				
7.2 "	15	8.0	0.5	066													29	5.7	2.6	096	6	6.7	3.1	221				
9.0 "	5	8.4	7.4	089													28	5.7	2.3	101	3	5.5	1.3	191				

Station	NEW DELHI				POONA				PORT BLAIR																			
	1730*				2330				0530				1730				2330				0530*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.6	2.9	119	31	2.3	1.7	127	31	2.0	1.9	250	31	3.5	3.3	259	31	2.4	2.2	255	31	2.9	2.8	233				
0.15 a. g.	31	7.0	5.0	119	31	6.5	4.4	132	31	7.5	7.3	250	30	9.3	9.2	253	29	7.4	7.3	252	29	6.5	6.2	240				
0.3 a. m. s. l.	31	6.0	4.2	119																	29	6.6	6.3	240				
0.6 "	31	6.5	4.1	123	31	5.4	3.8	127	31	3.9	3.8	252	30	4.9	4.8	256	29	4.0	4.0	257	29	7.9	7.7	243				
0.9 "	31	6.5	4.1	120	31	7.7	5.5	137	31	9.5	9.2	253	30	11.1	11.1	255	29	9.4	9.0	253	29	9.1	8.9	248				
1.5 "	31	6.8	3.1	128	29	8.1	5.9	136	15	15.8	15.5	264	21	16.3	16.0	257	15	15.0	14.8	257	27	9.2	9.0	255				
2.1 "	31	6.9	2.0	123	28	7.1	3.5	124	4	13.9	13.4	262	5	14.2	13.8	260	5	13.8	13.7	258	25	9.7	8.5	251				
3.0 "	31	6.9	1.0	086	25	7.2	0.8	112									2	5.1	4.8	278	23	10.3	9.5	256				
3.6 "	31	6.4	1.4	074	16	5.4	2.6	073													21	9.1	8.0	254				
4.5 "	31	5.9	1.7	054	6	2.6	2.4	095													18	8.7	7.3	248				
5.4 "	31	5.9	1.5	048	1	4.6	4.6	340													17	7.6	5.8	239				
6.0 "	31	6.2	2.1	057																	15	7.5	4.9	233				
7.2 "	31	6.1	1.3	084																	11	5.6	2.0	196				
9.0 "	31	5.7	2.0	115																	7	7.8	6.3	089				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

July 1959 (Asadha 10—Srawana 9, 1881 Saka)

Station	PORT BLAIR												RAIPUR											
	1130				1730*				2330				0530				1730				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	4.6	4.3	227	31	3.9	3.8	231	31	2.8	2.7	233	31	3.2	2.6	221	31	3.1	2.4	251	31	3.4	2.7	232
0.15 a. g.	26	7.6	7.2	230	27	6.7	6.6	240	26	4.6	4.5	234	22	8.2	6.7	238	23	7.1	5.4	247	21	8.8	7.5	236
0.3 a. m. s. l.	26	8.2	7.8	229	27	7.1	6.8	240	26	4.8	4.7	234												
0.6 "	26	8.6	8.1	233	27	9.1	8.6	244	26	5.3	5.2	239	22	10.0	7.6	255	23	8.3	5.9	250	21	10.1	8.2	249
0.9 "	25	9.2	8.9	237	27	10.0	9.5	252	23	4.9	4.8	247	22	11.4	8.5	262	22	8.5	6.3	254	21	11.0	8.4	254
1.5 "	24	9.3	9.2	241	27	10.0	9.5	260	19	4.7	4.5	255	20	10.8	9.9	274	19	8.9	5.4	277	20	9.8	8.4	267
2.1 "	20	9.6	9.3	246	25	9.0	8.4	260	18	4.5	4.2	256	16	9.8	5.5	284	12	9.2	3.5	284	14	10.6	8.3	267
3.0 "	14	9.3	8.9	254	23	8.5	8.0	260	15	4.2	3.7	244	13	9.2	3.2	274	11	9.6	1.3	340	8	8.6	5.0	285
3.6 "	11	7.7	7.2	257	19	8.7	8.2	255	12	4.2	3.5	252	5	7.7	2.6	110	8	8.6	2.3	040	5	5.5	2.1	346
4.5 "	9	8.1	7.1	259	17	7.3	6.5	249	3	1.7	1.6	200	2	7.2	7.2	097	2	4.6	4.5	080				
5.4 "	6	8.1	6.7	265	15	6.8	4.9	239					2	8.0	8.0	102								
6.0 "	3	4.6	4.3	291	11	6.8	4.0	232					1	7.7	7.7	105								
7.2 "	3	6.0	4.0	263	11	6.0	3.1	192					1	9.8	9.8	110								
9.0 "					5	10.1	8.0	096																

Station	RAXAUL								SANTA CRUZ															
	0530				1730				0530*				1130				1730*				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	31	1.4	1.4	088	31	2.0	1.7	088	31	6.4	6.1	252	31	5.8	5.3	247	31	7.2	6.8	248	30	5.3	4.7	242
0.15 a. g.	29	6.7	5.7	093	31	5.9	4.5	105	30	10.6	10.4	236	28	10.4	10.2	239	31	11.1	10.8	235	27	8.8	8.7	238
0.3 a. m. s. l.	29	7.8	6.5	100	31	6.1	4.7	107	30	11.1	10.8	235	28	12.4	12.1	242	31	12.0	11.7	234	27	10.0	9.9	238
0.6 "	27	10.4	9.5	112	31	7.4	6.0	107	30	12.0	11.7	233	22	13.5	13.3	246	31	12.9	12.6	238	24	10.7	10.6	244
0.9 "	27	10.9	9.6	110	30	8.4	6.6	108	30	12.6	12.4	234	14	15.2	15.0	248	31	13.2	12.9	240	15	11.5	11.3	244
1.5 "	24	10.8	9.9	104	28	9.0	7.1	110	30	12.4	12.2	235	2	15.7	15.5	257	31	13.1	12.8	236	6	10.6	10.2	245
2.1 "	20	9.9	8.7	102	26	8.2	6.5	118	30	12.6	12.3	234					31	12.9	12.4	236	3	9.3	9.1	240
3.0 "	14	6.0	6.0	103	22	6.7	5.5	116	30	12.2	11.8	241					30	12.6	12.1	241				
3.6 "	12	5.3	4.8	108	20	6.6	5.3	120	30	10.9	10.5	242					30	12.0	11.2	241				
4.5 "	6	4.1	3.5	126	16	6.1	4.4	109	30	10.0	8.6	239					29	9.8	8.7	240				
5.4 "	5	3.9	2.8	126	14	6.8	2.6	099	30	8.6	6.2	237					28	7.7	5.9	234				
6.0 "	4	3.6	2.8	123	13	5.6	1.0	076	30	7.1	3.8	231					28	7.3	4.6	238				
7.2 "	2	6.9	6.3	077	9	6.0	3.9	102	30	6.3	0.4	302					28	6.0	1.1	217				
9.0 "					4	6.8	4.9	098	26	7.9	6.6	060					25	7.8	6.9	057				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.5	096	31	0.9	0.3	028	31	1.2	0.4	167	31	7.3	7.3	270	31	13.6	13.5	270	31	10.6	10.6	270
0.15 a. g.	23	5.0	2.4	113	30	3.2	0.6	117	24	4.6	1.5	171	31	10.2	10.1	270	27	13.1	12.8	273	23	11.2	11.1	271
0.3 a. m. s. l.	23	5.3	2.1	117	30	3.3	0.6	102	24	4.4	1.4	182	31	11.6	11.4	270	27	13.7	13.4	274	23	11.6	11.0	271
0.6 "	23	5.6	1.1	164	29	3.4	0.3	177	24	3.9	1.4	223	31	16.4	16.2	270	27	14.5	11.3	272	23	14.9	14.7	268
0.9 "	21	6.2	1.6	251	29	3.8	1.4	213	22	3.5	1.7	230	31	17.9	17.7	270	27	14.7	14.6	269	23	15.8	15.5	269
1.5 "	15	5.9	2.6	219	28	4.4	2.7	222	21	4.1	3.1	239	31	17.1	17.0	270	27	14.8	14.1	267	23	14.2	14.1	271
2.1 "	13	6.3	2.4	217	26	4.8	3.0	212	17	4.8	3.7	235	29	4.6	14.4	270	23	15.1	14.7	269	21	11.2	11.0	276
3.0 "	8	5.1	3.0	221	23	4.8	2.2	199	12	3.7	2.1	254	12	7.7	7.3	277	16	13.7	13.5	270	13	8.3	7.6	275
3.6 "	6	4.3	3.0	233	21	5.5	2.0	191	10	4.4	2.2	174	8	6.9	6.2	275	8	8.0	7.9	276	5	7.3	6.3	273
4.5 "	2	3.3	3.2	276	16	5.2	2.8	106	3	4.5	3.7	114	3	6.5	5.7	241	5	9.9	9.4	276	3	9.8	8.7	282
5.4 "	1	2.6	2.6	245	13	4.7	2.4	102	2	5.1	3.5	105	1	2.1	2.1	250	3	12.2	12.1	267				
6.0 "	1	2.1	2.1	265	8	6.7	4.4	081	1	9.3	9.3	055					1	6.7	6.7	265				
7.2 "					7	5.8	5.1	095									1	1.5	1.5	120				
9.0 "					2	11.8	11.7	112																

Station	TRIVANDRUM												UDAIPUR											
	0530*				1130				1730*				2330				0530				1730			
Time in I. S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.7	2.5	323	31	3.5	3.4	309	31	4.4	4.0	297	31	2.8	2.5	327	31	1.3	1.0	220	31	2.1	1.4	217
0.15 a. g.	26	5.7	5.1	316	24	7.2	6.7	305	30	6.7	6.3	300	25	7.6	7.1	312	28	3.8	2.7	245	28	4.8	2.8	232
0.3 a. m. s. l.	26	6.8	6.2	314	24	7.7	7.4	301	30	7.7	7.7	304	25	8.8	8.3	308								
0.6 "	26	9.8	9.2	304	20	11.9	11.4	298	30	10.3	9.8	298	25	11.8	11.3	297								
0.9 "	26	12.8	12.2	292	18	15.1	14.7	297	30	12.9	11.3	295	21	14.6	13.6	294	28	4.9	3.3	254	27	5.5	3.2	231
1.5 "	26	14.4	14.1	290	5	18.0	17.7	299	30	15.1	14.5	293	18	16.9	16.1	297	15	4.7	1.6	275	23	4.6	2.8	262
2.1 "	26	14.5	14.2	288	2	14.7	14.6	317	30	14.8	14.7	290	7	15.4	15.1	301	11	4.4	3.2	065	19	3.6	1.3	278
3.0 "	25	12.1	11.8	280					30	13.4	12.9	282	3	9.3	8.4	314	6	4.8	3.3	070	14	3.7	0.5	153
3.6 "	25	11.5	11.1	274					29	12.6	12.0	280	1	2.1	2.1	360	3	5.0	3.7	102	10	3.9	1.5	082
4.5 "	25	10.4	9.6	271					28	11.4	9.8	273	1	2.1	2.1	220					7	4.9	2.7	094
5.4 "	25	9.4	8.0	266					28	9.0	8.1	276									4	5.0	2.4	096
6.0 "	24	8.1	4.8	264					28	7.3	4.9	270									1	6.7	6.7	215
7.2 "	24	6.7	1.9	319					27	6.0	1.4	311												
9.0 "	23	10.1	8.1	068					26	10.9	6.4	084												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

July 1959 (Asa lha 10—Sravana 9, 1881 Saka)

Station	UDAIPUR				VENGURLA												VERAVAL							
	2330				0530				1730				2330				0530*				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.4	1.2	205	31	3.8	3.5	248	31	3.3	2.9	255	31	3.2	2.9	252	31	10.6	9.8	255	31	9.9	9.0	251
0.15 a. g.	28	3.7	3.1	215	27	8.9	8.2	256	30	9.0	8.6	258	27	7.5	7.3	255	28	12.1	11.6	248	26	9.9	9.1	257
0.3 a. m. s. l.					27	9.9	9.4	258	30	11.4	11.2	260	27	9.4	9.2	257	27	12.4	11.8	248	26	11.4	11.0	251
0.6 "					23	11.8	11.8	264	25	15.3	15.2	263	25	11.3	11.1	262	27	12.2	11.6	249	21	12.7	12.0	254
0.9 "	28	5.1	4.2	221	8	14.2	14.1	273	16	17.3	17.3	268	8	12.3	12.0	270	25	12.2	11.0	250	11	10.8	9.9	250
1.5 "	20	4.8	3.1	238	3	10.8	10.7	272	5	18.5	18.5	270	3	11.7	11.7	268	23	10.5	9.6	246	1	8.7	8.7	260
2.1 "	18	4.3	0.9	193													23	9.6	8.4	249				
3.0 "	15	3.3	1.2	086													23	10.4	8.7	250				
3.6 "	15	3.8	3.5	067													23	8.4	6.2	250				
4.5 "	8	5.7	4.4	052													23	7.6	4.0	219				
5.4 "	2	6.7	6.5	062													23	6.9	3.2	199				
6.0 "	2	4.6	4.6	058													23	7.5	2.3	188				
7.2 "																	23	7.2	3.1	114				
9.0 "																	20	9.0	7.6	089				

Station	VERAVAL								VISAKHAPATNAM											
	1730*				2330				0530				1730				2330			
Time in I.S.T.																				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	10.6	9.8	265	29	10.2	9.4	243	31	2.5	2.3	234	31	5.7	5.3	233	31	3.6	3.3	230
0.15 a. g.	28	11.8	11.4	240	26	9.9	9.7	244	30	5.3	5.7	242	24	7.9	7.4	234	23	6.4	6.3	241
0.3 a. m. s. l.	28	12.7	12.0	248	26	11.1	10.9	247	30	7.0	6.7	252	24	8.2	7.9	241	23	7.1	6.8	248
0.6 "	26	12.4	12.0	249	22	11.3	11.1	251	30	8.8	8.4	261	24	8.5	8.4	253	23	8.1	7.6	262
0.9 "	24	12.1	11.5	250	14	12.1	11.8	251	29	9.7	8.9	275	23	9.6	9.0	265	22	9.4	8.7	278
1.5 "	24	10.9	10.2	245	2	10.1	9.1	231	27	12.0	10.3	285	22	11.2	10.6	283	21	12.0	11.2	284
2.1 "	24	10.4	9.7	251	1	6.7	6.7	240	25	11.8	9.8	296	19	11.7	11.1	292	15	10.8	10.0	286
3.0 "	24	9.8	7.9	251					11	8.3	6.2	305	12	14.3	13.1	291	3	8.2	8.1	292
3.6 "	24	9.5	7.5	244					2	12.4	9.3	004	6	12.3	11.6	301				
4.5 "	24	7.5	4.6	222									2	12.1	10.9	307				
5.4 "	24	6.6	3.0	199																
6.0 "	24	7.4	2.6	196																
7.2 "	23	8.8	3.4	111																
9.0 "	22	10.9	8.7	088																

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above mean sea level

July 1959 (Asadha 10—Srawana 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	AMAUSI					BAMRAULI					DUM DUM					GWALIOR			
	1730 hrs.					0530 hrs.*				10.5	1730 hrs.*					0530 hrs.			
10.5	2	14.7	13.4	105	10.5	15	11.0	10.1	097	12.0	28	10.0	8.4	093	10.5	1	16.5	16.5	120
12.0	2	16.0	15.4	112	12.0	5	13.9	13.1	090	14.1	26	12.0	10.8	079		1730 hrs.			
14.1	2	16.5	15.5	115	14.1	1	6.2	6.2	010	16.2	18	18.5	16.3	078	10.5	3	8.4	8.0	064
16.2	1	16.5	16.5	080		1730 hrs.*				18.0	8	23.9	20.6	080	12.0	2	8.0	8.0	113
	AMBALA				10.5	21	12.0	10.9	085	21.0	2	18.5	7.4	072	14.1	1	6.7	6.7	095
	0530 hrs.				12.0	11	16.5	15.5	082		GAUHATI				16.2	1	16.0	16.0	090
10.5	4	8.6	2.1	131	14.1	2	22.7	22.4	093		0530 hrs.*					JODHPUR			
12.0	3	11.2	8.8	180		BAREILLY				10.5	23	11.3	8.4	080	10.5	14	9.6	7.7	090
14.1	3	13.2	4.9	164		0530 hrs.				12.0	20	15.1	12.6	068	12.0	5	16.2	9.4	100
16.2	2	21.9	13.4	184	10.5	1	7.7	7.7	120	14.1	16	19.4	16.7	061	14.1	1	36.5	36.5	110
18.0	2	21.4	12.6	202	12.0	1	9.3	9.3	130	16.2	6	24.6	22.3	062		1730 hrs.*			
21.0	2	22.2	16.7	147	14.1	1	15.4	15.4	065	18.0	3	22.3	22.3	074	10.5	11	7.2	4.7	088
24.0	2	20.8	19.0	127		1730 hrs.				21.0	1	20.6	20.6	080	12.0	6	6.0	2.7	080
27.0	1	23.7	23.7	108	10.5	1	8.7	8.7	215		1730 hrs.*				14.1	3	8.4	7.9	122
	1730 hrs.					BHAGALPUR				10.5	25	10.4	9.0	066		MADRAS			
10.5	2	14.9	13.7	263		1730 hrs.				12.0	21	12.9	11.0	070	10.5	28	14.2	13.9	083
12.0	2	13.6	7.9	260	10.5	1	13.4	13.4	070	11.1	11	16.5	15.6	066	12.0	23	22.7	22.4	078
14.1	1	6.7	6.7	015		BIKANER				16.2	3	26.9	26.2	066	14.1	18	32.2	31.3	081
16.2	1	4.6	4.6	320		0530 hrs.				10.5	3	8.7	8.0	088	16.2	7	26.9	26.2	093
18.0	1	2.6	2.6	085	10.5	2	6.1	3.5	080	12.0	2	14.4	12.8	107	18.0	1	19.6	19.6	090
21.0	1	13.4	13.4	095		1730 hrs.				14.1	1	5.7	5.7	080		1730 hrs.*			
	AMRITSAR				10.5	2	2.1	2.0	230		GAYA				10.5	25	12.9	11.7	087
	0530 hrs.*				12.0	2	6.4	4.9	155		0530 hrs.				12.0	24	20.1	19.5	085
10.5	13	10.5	7.9	265		DEHRA DUN				14.1	3	12.7	4.5	051	14.1	17	28.7	28.2	087
12.0	9	11.2	8.6	278	10.5	2	13.6	12.7	175	12.0	1	19.0	19.0	110	16.2	7	45.2	44.7	085
14.1	4	8.3	5.8	268	12.0	2	18.5	18.5	148	14.1	1	22.7	22.7	110	18.0	4	34.7	32.4	075
	1730 hrs.*				14.1	2	14.4	14.2	150		1730 hrs.				21.0	1	38.1	38.1	090
10.5	16	9.3	7.0	250		DUM DUM				10.5	1	6.2	6.2	155		NAGPUR			
12.0	10	10.6	5.5	227		0530 hrs.*					GORAKHPUR				10.5	4	8.7	8.1	072
14.1	5	10.5	5.7	255	10.5	22	11.6	11.2	096	10.5	2	8.2	8.2	081	12.0	3	16.6	16.5	067
	ASANSOL				12.0	16	14.8	13.8	080	12.0	1	6.2	6.2	010	14.1	1	27.8	27.8	070
	1730 hrs.				14.1	11	18.7	18.0	079	14.1	1	5.7	5.7	045		0530 hrs.*			
10.5	1	12.4	12.4	065	16.2	4	18.4	18.3	070		1730 hrs.					1730 hrs.*			
12.0	1	14.9	14.9	055	18.0	1	35.0	35.0	080		0530 hrs.					0530 hrs.*			
14.1	1	20.1	20.1	070															

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above mean sea level

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	NAGPUR					SANTA CRUZ					VERAVAL			
	1730 hrs.*					0530 hrs.*					1730 hrs.*			
10.5	5	9.9	9.4	085	10.5	24	12.2	11.3	062	10.5	22	14.1	13.3	082
12.0	1	17.5	17.5	070	12.0	23	19.0	17.9	062	12.0	20	19.9	18.9	080
14.1	1	25.2	25.2	020	14.1	20	26.1	18.4	063	14.1	19	26.7	23.0	079
	NEW DELHI				16.2	10	33.0	31.2	061	16.2	16	27.7	26.8	089
	0530 hrs.*				18.0	6	36.6	36.4	056	18.0	8	21.7	21.6	083
10.5	25	6.3	2.5	112	21.0	1	23.7	23.7	060	21.0	2	23.4	23.3	095
12.0	25	8.2	4.4	139		1730 hrs.*								
14.1	23	9.1	5.8	114	10.5	21	11.5	10.8	071					
16.2	23	12.1	9.4	068	12.0	17	18.0	17.2	067					
18.0	19	15.9	15.1	080	14.1	10	23.0	24.2	075					
21.0	5	15.7	15.4	088	16.2	6	33.9	32.7	068					
24.0	2	23.4	23.4	090	18.0	4	34.3	33.7	063					
	NEW DELHI					TEZPUR								
	1130 hrs.					1730 hrs.								
10.5	3	5.5	3.1	175	10.5	1	16.0	16.0	100					
	1730 hrs.*				12.0	1	14.4	14.4	094					
10.5	31	6.1	2.2	118	14.1	1	25.7	25.7	080					
12.0	31	6.8	1.9	135		TRIVADRUM								
14.1	29	9.5	6.7	091		530 hrs.*								
16.2	24	14.2	13.2	084	10.5	17	16.7	16.0	085					
18.0	16	13.9	13.3	093	12.0	17	28.6	28.1	084					
21.0	9	16.5	16.2	086	14.1	13	28.8	19.9	076					
24.0	2	23.9	23.9	100	16.2	6	22.2	22.1	089					
	PORT BLAIR				18.0	1	20.6	20.6	085					
	0530 hrs.*					1730 hrs.*								
10.5	5	11.3	10.2	066	10.5	19	16.6	14.4	078					
12.0	4	12.5	11.1	053	12.0	15	28.7	28.1	080					
14.1	1	11.3	11.3	070	14.1	14	30.0	27.9	075					
	1730 hrs.*				16.2	9	23.1	22.7	079					
10.5	5	14.8	14.2	062	18.0	3	28.7	28.0	091					
12.0	2	18.5	18.5	070		VERAVAL								
14.1	1	8.7	8.7	020		0530 hrs.*								
	RAXAUL				10.5	19	13.0	12.2	089					
	1730 hrs.				12.0	17	17.5	17.0	090					
10.5	3	9.6	8.7	061	14.1	17	25.1	24.1	094					
12.0	1	8.7	8.7	075	16.2	12	29.1	28.5	083					
14.1	1	5.7	5.7	090	18.0	4	29.2	29.0	081					
16.2	1	5.7	5.7	090	21.0	1	24.7	24.7	070					
					24.0	1	29.3	29.3	081					

RADIOSONDE DATA

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October 1944	00 and 12	
2	Amritsar	Clock type	21st June 1957	00 and 12	
3	Bombay	Clock type	7th September 1954	00 and 12	
4	Calcutta	Clock type	13th December 1946	00 and 12	Fan type used from 13-12-46 to 30-11-47.
5	Gaulati	Clock type	22nd July 1955	00 and 12	
6	Jodhpur	Clock type	17th April 1946	00 and 12	
7	Madras	Fan type	29th June 1946	00 and 12	
8	Nagpur	Fan type	1st October 1946	00 and 12	
9	New Delhi	Clock type	3rd December 1943	00 and 12	
10	Port Blair	Fan type	4th December 1949	00 and 12	
11	Trivandrum	Fan type	1st July 1947	00 and 12	
12	Veraval	Fan type	3rd October 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

July 1959 (Asa iha 10—Savana 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1003 mb.)							NAGPUR (965 mb.)							NEW DELHI (974 mb.)								
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A								
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point					
Surface	31	015	300.6	303	299	295.2	31	311	297.3	299	295	295.6	31	210	300.8	305	298	298.0					
1000	31	039	..	..	..	..	31	—001	..	..	..	..	31	—023	..	..	..	..	
900	31	996	295.1	293	293	289.4	31	921	295.1	297	291	291.4	31	911	298.4	303	295	293.8					
850	31	1462	292.4	295	289	286.7	31	1117	292.8	295	290	289.3	31	1412	295.4	300	291	291.3					
800	31	1982	289.6	293	287	284.1	31	1939	291.1	292	287	286.3	31	1910	292.1	293	288	288.5					
700	31	3108	282.6	286	279	277.7	31	3071	285.0	288	282	280.2	31	3077	286.0	290	283	282.4					
600	31	4371	274.8	280	272	271.9	30	4359	278.6	282	275	272.8	31	4363	279.9	283	278	274.4					
500	31	5822	267.5	273	264	..	30	5824	270.8	274	268	267.2	31	5342	272.1	275	268	..					
400	31	7539	257.5	262	252	..	30	7567	261.7	267	258	..	31	7596	263.9	270	260	..					
300	28	9649	242.4	249	236	..	25	9718	247.5	253	242	..	27	9756	249.1	254	243	..					
250	26	10925	233.0	241	225	..	23	11020	238.1	245	232	..	25	11061	238.1	246	232	..					
200	18	12420	221.4	229	213	..	18	12545	226.5	234	220	..	24	12587	227.3	236	221	..					
175	16	13290	214.7	221	204	..	14	13443	217.1	229	215	..	24	13458	220.3	226	214	..					
150	14	14223	208.2	215	200	..	14	14419	213.6	223	208	..	24	14435	212.2	221	206	..					
125	11	15285	201.9	207	195	..	13	15555	207.6	218	202	..	24	15544	203.9	213	196	..					
100	5	16667	200.4	203	195	..	12	16900	204.3	213	196	..	23	16856	198.3	215	190	..					
80						..	10	18214	205.8	212	197	..	19	18136	199.7	208	193	..					
			PORT BLAIR (997 mb.)							TRIVANDRUM (1001 mb.)							VERAVAL (998 mb.)						
Surface	31	079	298.3	300	296	297.1	31	064	297.3	299	296	295.3	29	008	301.0	302	299	298.7					
1000	31	054	..	..	..	..	31	075	..	..	..	..	29	—005	..	..	..	..	
900	31	978	294.3	296	293	292.2	31	995	293.0	295	290	289.2	29	921	294.1	296	292	292.4					
850	31	1472	291.7	293	289	288.5	31	1486	290.3	293	287	285.8	29	1415	291.6	294	290	289.9					
800	31	1991	288.9	291	286	285.5	31	2003	287.6	290	284	282.4	29	1934	289.0	292	285	286.1					
700	31	3116	283.3	286	279	278.6	31	3122	281.9	285	276	275.1	29	3060	283.9	289	280	279.0					
600	31	4383	276.3	280	269	273.4	31	4386	275.2	280	269	265.7	29	4332	277.1	280	275	272.3					
500	29	5839	268.1	272	263	..	31	5838	267.3	271	263	..	29	5797	270.0	272	266	..					
400	29	7563	258.1	263	254	..	31	7554	257.0	263	251	..	29	7531	259.6	263	251	..					
300	23	9675	244.0	250	239	..	29	9660	242.4	249	235	..	28	9663	245.4	251	234	..					
250	17	10943	234.1	243	229	..	23	10993	232.5	240	226	..	27	10962	236.3	243	229	..					
200	11	12417	221.2	227	216	..	21	12419	220.3	231	211	..	25	12472	223.8	230	215	..					
175	9	13222	213.7	218	207	..	17	13248	213.4	220	204	..	24	13367	216.4	222	208	..					
150	8	14199	207.0	214	202	..	16	14206	207.1	213	198	..	24	14295	208.5	217	199	..					
125	5	15231	199.8	202	197	..	13	15322	201.7	205	197	..	23	15293	201.7	210	195	..					
100						..	8	16668	204.1	211	197	..	18	16734	199.9	205	191	..					
80						..						..	9	18124	204.3	211	196	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

July 1959 (Asadha 10—Sravana 9, 1880 Saka)

		VISAKHAPATNAM Surf. Pr. (995 mb.)				
Standard Pressure Surface mbs.	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	299.9	301	297	296.3
1000	31	003	..	..	..	..
900	31	933	296.0	300	293	291.2
850	31	1430	292.9	297	290	289.0
800	31	1952	290.0	296	286	286.0
700	31	3082	284.0	288	281	280.2
600	31	4352	277.1	281	273	273.6
500	31	5818	269.8	273	266	..
400	31	7550	259.4	265	255	..
300	29	9682	244.9	251	235	..
250	26	10969	235.6	243	225	..
200	18	12473	223.8	229	215	..
175	16	13335	217.1	223	208	..
150	10	14294	210.0	217	200	..
125	8	15429	204.6	211	197	..
100	5	16791	198.4	204	192	..
80	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 12 Hours G. M. T.

July 1959 (Asadha 10—Sravana 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1003 mb.)						NAGPUR (963 mb.)						NEW DELHI (972 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	303.6	307	299	296.3	31	311	301.5	307	297	295.9	31	210	306.0	311	301	297.8
1000	31	025	..	..	..	..	31	-021	..	..	..	..	31	-040	..	..	..	..
900	31	964	298.0	301	291	290.3	31	915	297.3	302	293	292.1	31	904	301.4	307	297	293.0
850	31	1161	294.1	298	290	288.9	31	1413	293.7	298	291	289.7	31	1409	297.8	302	293	290.8
800	31	1987	290.0	294	285	286.6	31	1936	290.6	292	289	287.5	31	1939	294.0	297	290	283.4
700	31	3115	283.2	285	281	278.9	31	3068	284.5	287	281	281.7	31	3083	287.4	290	285	281.0
600	31	4383	276.2	279	273	272.5	31	4347	278.7	283	275	274.2	31	4372	281.0	283	278	273.0
500	30	5846	268.2	272	256	..	29	5822	271.0	275	267	..	31	5860	273.6	277	270	261.7
400	30	7569	258.6	265	253	..	29	7558	261.1	266	251	..	31	7522	264.2	268	261	..
300	29	9584	243.7	252	235	..	20	9701	245.1	252	240	..	31	9793	249.9	256	246	..
250	25	10958	233.7	244	229	..	19	10989	236.6	246	230	..	31	11104	238.9	247	236	..
200	18	12487	223.9	231	214	..	16	12508	224.5	235	218	..	31	12639	228.4	236	224	..
175	13	13341	217.6	223	205	..	12	13377	217.8	230	214	..	31	13510	221.1	229	216	..
150	13	14303	211.3	217	202	..	9	14368	211.9	223	207	..	29	14504	213.2	220	208	..
125	9	15413	205.3	210	197	..	5	15510	205.8	216	202	..	28	15624	204.7	210	190	..
100													21	16945	198.9	207	191	..
80													16	18278	200.1	209	187	..
Standard Pressure Surface mbs.	PORT BLAIR (997 mb.)						TRIVANDRUM (1001 mb.)						VERAVAL (994 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	079	299.2	301	296	297.3	31	064	300.2	303	297	296.5	30	008	301.8	304	298	298.9
1000	31	049	..	..	..	..	31	070	..	..	..	..	30	-003	..	..	..	..
900	30	974	294.4	296	291	292.1	31	995	293.8	297	291	290.3	30	925	295.3	302	293	291.6
850	30	1468	291.8	294	289	288.9	31	1488	291.0	294	287	286.4	30	1420	292.7	299	290	289.0
800	30	1988	289.1	291	287	285.6	31	2005	288.0	291	284	282.5	30	1945	290.0	295	287	286.2
700	30	3113	282.8	286	279	279.4	31	3127	282.9	286	281	274.4	30	3074	285.3	289	281	278.2
600	30	4381	276.3	279	273	273.2	30	4393	276.5	280	272	265.7	30	4352	278.1	283	274	273.0
500	29	5837	268.6	274	263	..	30	5848	267.7	273	263	..	30	5823	271.4	275	266	266.0
400	29	7562	258.4	267	252	..	30	7566	256.9	263	253	..	29	7568	261.2	266	255	..
300	23	9696	245.3	251	238	..	29	9671	241.7	253	235	..	28	9714	247.0	253	239	..
250	14	10971	238.1	246	233	..	27	10941	231.8	245	224	..	28	11012	237.1	245	230	..
200	12	12476	224.9	228	221	..	26	12415	220.2	230	213	..	28	12520	224.4	230	213	..
175	5	13306	217.0	220	213	..	26	13261	214.2	223	207	..	28	13387	217.4	224	205	..
150							23	14217	206.9	219	199	..	26	14359	210.8	220	200	..
125							21	15334	203.1	212	196	..	26	15477	205.2	212	196	..
100							16	16636	204.6	209	200	..	21	16822	203.3	210	194	..
80							9	17965	206.4	217	199	..	15	18173	206.1	218	197	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

July 1959 (Asadha 10—Sravana 9, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1006 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	302.3	305	299	297.0
1000	31	-010	..	..	..	..
900	31	925	296.6	299	293	291.9
850	31	1423	293.3	297	291	289.6
800	31	1945	290.5	298	286	286.7
700	31	3076	284.2	288	274	279.9
600	31	4346	276.9	283	273	273.3
500	31	5811	269.2	277	263	..
400	31	7538	258.7	267	253	..
300	27	9682	245.3	252	240	..
250	26	10968	235.6	241	229	..
200	22	12485	224.9	230	218	..
175	13	13351	216.8	225	213	..
150	15	14307	209.1	217	204	..
125	11	15422	203.3	210	195	..
100	9	16787	202.6	209	193	..
80						

NOTE.—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273° A.

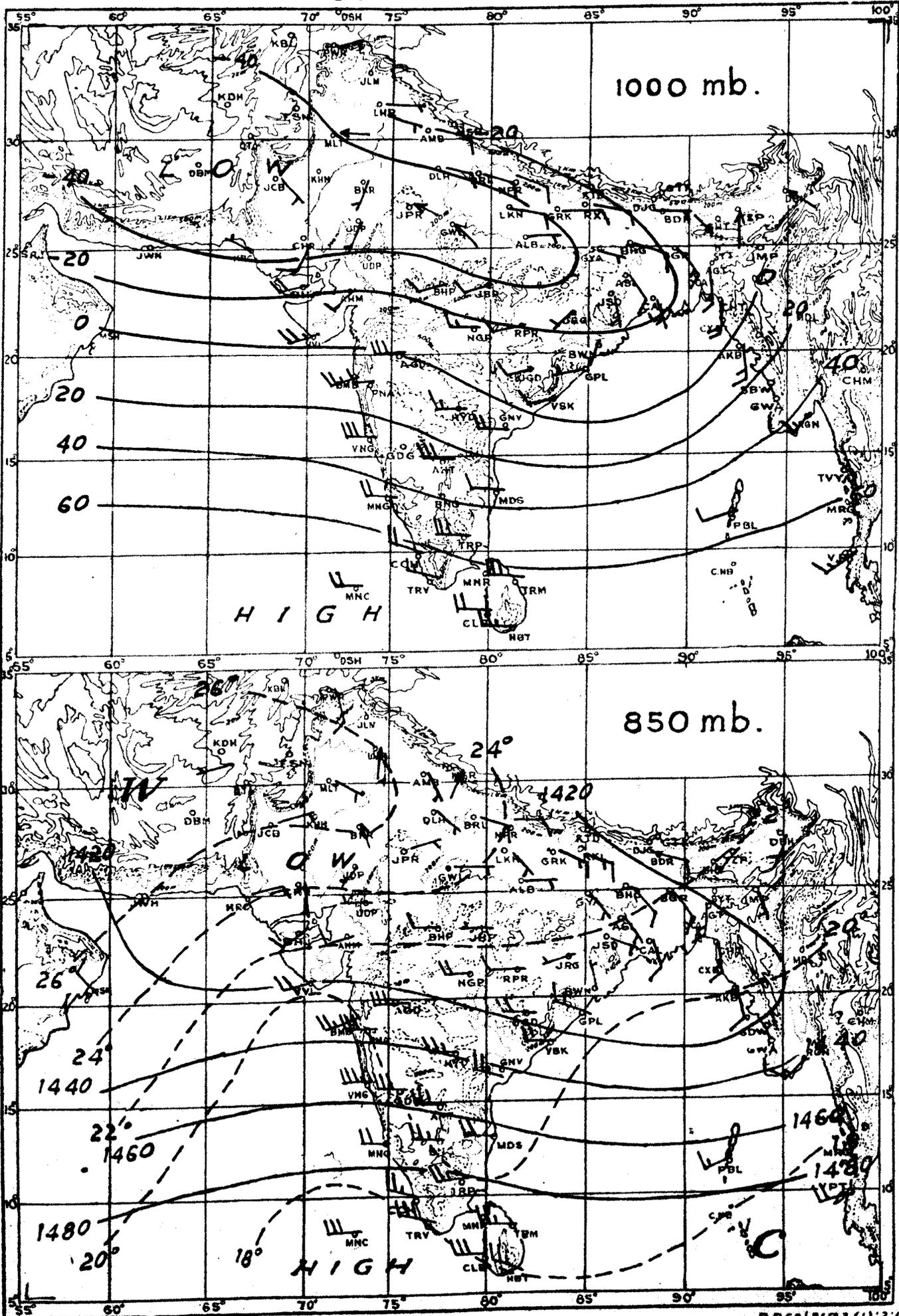
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I. Met. D.

JULY 1959

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

DDGC/2183 (1):3:64

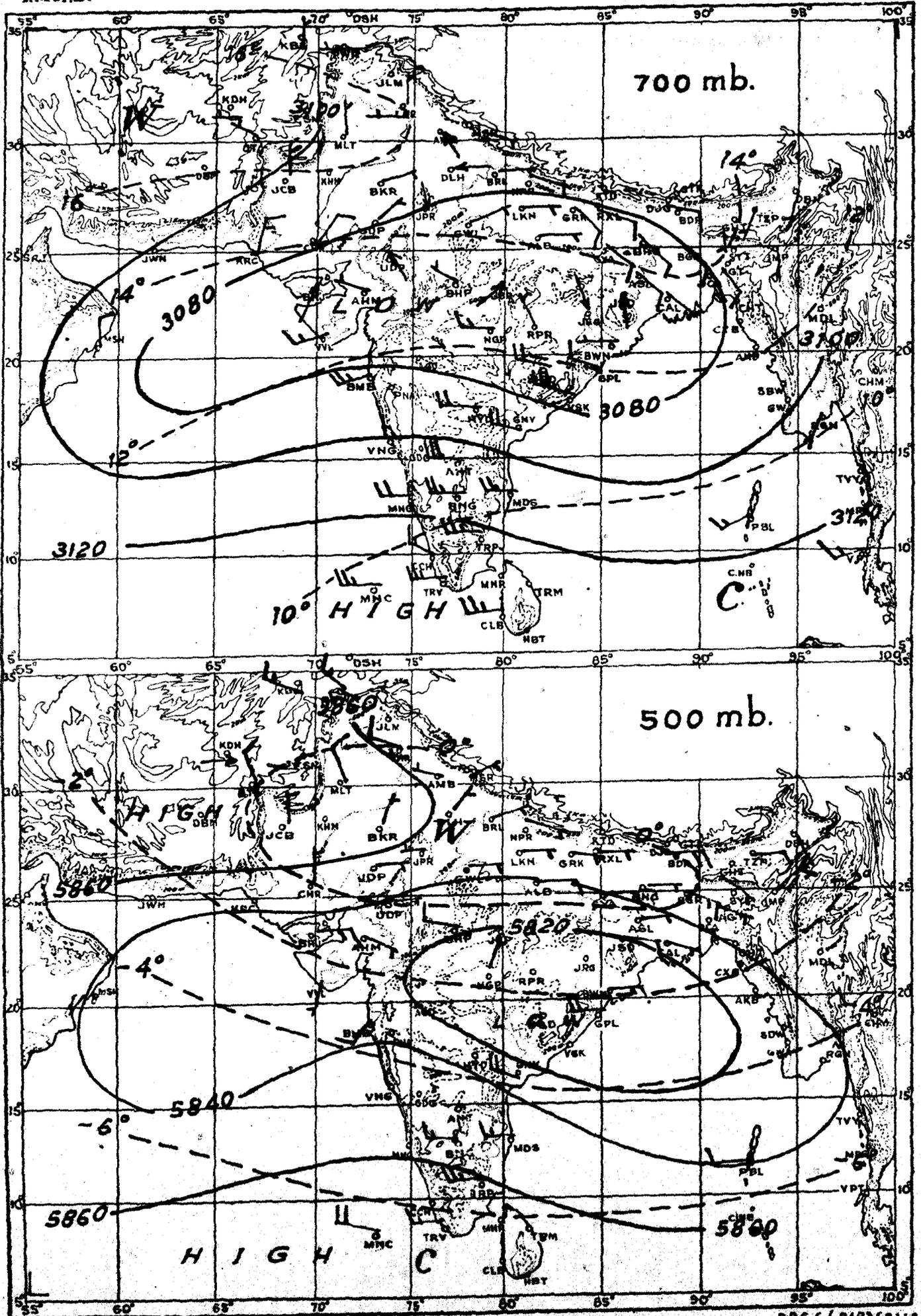
G.P.S. 200000, 1953

MONTHLY MEAN CONSTANT PRESSURE CHARTS

JULY 1959

Plate II

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

DDG C/21P(2):3:64
G.P. A. 2004, 1955

INDIA WEATHER REVIEW, 1959

Monthly Weather Report
AUGUST

Published by authority of the Government of India

ATMOSPHERIC SCIENCES
LIBRARY

MAR 1 1967

E. S. S. A.
U. S. Dept. of Commerce*Chief features—*

(1) Fairly active monsoon conditions over northern India during the first three weeks of the month,

(2) two land depressions and

(3) well distributed rainfall over the belt extending from Orissa, southeast Madhya Pradesh and Telangana to Rajasthan Gujarat & Saurashtra and Kutch during the last ten days of the month.

During the first three weeks of August the Arabian Sea branch of the monsoon was generally weak along the west coast. The Bay branch, however, continued its activity practically throughout the month in association with two land depressions and four low pressure areas. The first depression formed over West Bengal and the neighbourhood with its centre on the morning of 4th between Asansol and Jamshedpur. Moving westnorthwestwards, it weakened into a low pressure area over north Madhya Pradesh and the neighbourhood on 7th and merged in the seasonal low by 8th. This was responsible for sustained monsoon activity over the region extending from West Bengal and Orissa to the Punjab(I) and east Rajasthan and also in Vidarbha and the Konkan during 4th and 8th. Sutna reported 14 cm of rain on 6th. Three low pressure areas which moved northwestwards across Gangetic West Bengal and Bihar in succession between 12th and 21st caused well distributed rainfall in West Bengal, Bihar and northwest India during this period. Scattered very heavy falls were also reported from Assam on some days. According to press reports, the rivers in Assam rose in spate and there was dislocation of road and railway communications. In association with active monsoon conditions over east Rajasthan. Jaipur recorded an exceptionally heavy fall of 19 cm (18.84 cm) on 16th which is an all time record for Jaipur.

The monsoon revived along the west coast and in the central parts of the country after 19th in association with the formation of a low pressure area at the head of the Bay of Bengal on 19th and its movement inland on the next day. It lay as an extended low from northwest Madhya Pradesh to the Orissa-north Circars coast during the next five days. Under its influence nearly general rain occurred along the west coast, in Maharashtra, Vidarbha and Telangana. Bombay (Santacruz) recorded a very heavy fall of 12 cm on 23rd and again 18 cm on 24th. Newspapers reported that low lying areas in the Bombay City were flooded due to the heavy downpour on 24th.

During the last week of the month the activity of the monsoon over most parts of the country was associated with the second land depression which formed over Orissa and the neighbourhood on 27th with its centre near Titilagarh. Taking a northwesterly course and weakening, it lay as a low pressure area over northwest Madhya Pradesh for two days and finally merged in the seasonal trough by the end of the month. Under its influence well distributed rain occurred in Rajasthan, Saurashtra and Kutch, Gujarat, the Konkan, Maharashtra, the central parts of the country and Telangana. Shegaon (Vidarbha) reported a very heavy fall of 25 cm on 30th. Fairly widespread rain also occurred in and near the Punjab(I) during this period. According to press reports, extensive floods occurred in Ambala and Tehri Garhwal districts involving considerable loss to property.

The rainfall for the month was in large excess in Telangana, in moderate excess in the Punjab (I) and Gujarat and in slight excess in west Uttar Pradesh, Madhya Pradesh, the Konkan, Maharashtra (including Marathwada) Vidarbha, Coastal Andhra Pradesh and north Interior Mysore. It was in slight defect in the Bay Islands, Orissa, Bihar Plateau and east Rajasthan and in moderate defect in Assam, Sub-Himalayan West Bengal, Saurashtra and Kutch and the Madras State. It was normal over the rest of the country outside Himachal Pradesh.

"Copyright © 1959 by Manager of Publications, Government of India, Delhi-8".

The mean maximum temperature was below normal in Gujarat and Coastal Andhra Pradesh and normal over the rest of the country outside Himachal Pradesh. The mean minimum temperature was normal over the country outside Himachal Pradesh.

The mean relative humidity in the morning was in excess in the Punjab(I), Rajasthan, Gujarat, Saurashtra and Kutch and Vidarbha, in defect in Jammu and Kashmir and normal elsewhere over the country outside Himachal Pradesh.

2307105 0183120MTA

The mean cloud amount in the morning was in excess in east Rajasthan, Telangana, the Madras State, north Interior Mysore and the Arabian Sea Islands and normal elsewhere over the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest fall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,
The 12th December, 1959.

C. RAMASWAMY,
for Director General of Observatories.

Errata to M.W.R. for August 1959 (Srawana 10 - Bhadra 9, 1881 Saka)

Page No.	Station	Hour	Column	For	Read
<u>Table I</u>					
407	3. Orissa		2	-260.9	260.9
<u>Table II</u>					
408	Midnapur		3	-4.0	-0.4
410	Meerut		11 ²	284.7	284.3
410	Ferozepur		10	30.3	30.0
410	Amritsar		28	0	2
410	Jodhpur		2	(Not clear)	31.7
410	Sikar		5	(Not clear)	7
411	Baroda (Aerodrome)		14	160.6	160.3
412	Jamnagar		10	99.0	9.9
412	Bombay (Colaba)		6	24.8	24.9
412	Bombay (Colaba)		11	406.0	446.0
412	Harnai		6	24.9	24.8
412	Aurangabad (Chikalhana Aerodrome)		27	1	0
412	Miraj		10	23.0	26.0
412	Gannawaram		11	304.2	304.5
412	Visakhapatnam		17	19.5	19.4
412	Nizamabad		5	19,21	17,21
412	Nizamabad		9	23,25	23,26
413	Mathurai		23	8	0
413	Madras		17	18.3	18.8
413	Belgaum		4	38.6	28.6
414	Shillong		21	1	0
414	Mahabaleshwar		10	257.6	757.6
414	(Foot note)		-	(a) Mean of 30 days	(a) Total for 30 days
<u>Table III</u>					
416	Kondul	1730	24	(Blank)	0
417	Gauhati (Bhorjor Aerodrome)	1730	17	1'	0
417	Tura	0830	5	961.3	961.8
420	Gaya	2330	27	3	8
422	Amritsar	0530	10	35.4	33.4
423	Bikaner	1730	5	971.1	971.7
423	(Foot note)	-	-	(m) Mean of 18 days	(delete)
423	(Foot note)	-	-	(a) Mean of 28 days	(delete)
424	Kotah	0830	6	-	-1.1
424	Kotah	1130	6	-1.1	..
424	Kotah	2330	23-27	10,4,0,17,0	0,10,4,0,17
424	Chambal	1730	23-27	8,13,2,2,0	0,8,13,2,2
424	Sheopurkalan	0830	28	0	1
425	Jagdulpur (P.B.O)	2330	21	1	0
426	Baroda (Aerodrome)	0830	15	.2	9.2
426	Rajkot (Aerodrome)	1730	20	6	0
426	Mahuva	1730	11	85	90
427	Harnai	0830	28	0	7
427	Vengurla	1130	23	4	0

contd. 2.

Page No.	Station	Hour	Column	For	Read
<u>Table III (contd.)</u>					
427	Deolali	1730	18	14	16
427	Aurangabad (Chikalhana Aerodrome)	2330	9	21.0	21.1
428	Jeur	1750	4	1007.5	1000.7
428	Akola	0830	1	(Not clear)	Akola
428	Chanda	0830	17	(Blank)	0
428	Nellore	1730	18	(Not clear)	31
428	Gannavaram	0530	15	..	12.3
429	Hanankonda	0830	10	29.7	26.7
430	Tondi	0830	1	Ondi	Tondi
430	Tiruchirapalli	2330	11	(Blank)	62
431	Mangalore	0830	14	-0.3	+0.3
431	Mangalore (Bajpe Aerodrome)	0230	11	(Not clear)	94
431	Mangalore (Bajpe Aerodrome)	0530	11	(Not clear)	94
431	Belgaum (Samore Aerodrome)	0830	17	0	8
431	Shimoga	0830	11	25	85
431	Shimoga	1730	23	2	0
431	Bangalore (Central Observatory)	0830	12	+5	+5
431	Bangalore (Central Observatory)	0230	15	15.6	15.7
432	Fort Cochin	1730	4	1007.9	1007.3
432	Mussoorie	0830	14	+0	+0.2
434	Bagra Tawa	1730	20	1	0
434	Gorkha	1730	8	2.16 (b)	21.6 (b)
434	Angbung	1730	8	22.2	22.1
434	Bhojpur	0830	1	Bhorjor	Bhojpur
434	Bhojpur	0230	8	19.6	19.1

* * * *

Page No.	Station	Time in I.S.T	Height in Km.	Entry under Column	Existing entry	Correct entry
437	Amritsar	-	-	Date of opening	21st June 1967	21st June 1957
439	Anantapur	-	T	-	Anantpur	anantapur
440	Bamrauli	1130	3.6	V	14.4	14.9
442	Chikalhana	2330	0.9	v	12.0	11.0
442	Chikalhana	2330	2.1	v	6.6	7.7
442	Chikalhana	2330	3.6	V	5.6	5.7
443	Dum Dum	1730	4.5	v	3.3	2.3
443	Dum Dum	2330	0.15 a.g	v	4.4	4.5
443	Gadag	2330	1.5	v	2.2	7.2
443	Gannavaram	1730	4.5	V	1.7	10.7
444	Gaya	1730	9.0	V	.6	8.6
445	Jabalpur	2330	0.6 to 4.5	n V v D	Values printed against levels 0.9 to 5.4 may be read for the levels from 0.6 to 4.5 respectively.	

contd. 3

Page No.	Station	Time in I.S.T	Height in Km.	Entry under column	Existing entry	Correct entry
445	Jagdapur	0530, 1730 and 2330	0.6 to 3.6	n,V,v,D	Values printed against levels 0.9 to 4.5 may be read for the levels from 0.6 to 3.6 respectively.	
446	Jamshedpur	0530	4.5		3.0	5.0
449	Raxaul	0530	0.15 a.g	D	063	093
450	Tiruchirapalli	0530	3.0	D	268	267
452	New Delhi	0530	-	-	0530	0530*

RADIOSONDE DATA

456	Nagpur	00 GMT	300 mb	Ht.gpm	9697	9679
458	Nagpur	12 GMT	1000 mb	Ht.gpm	012	-012
459	Trivandrum	12 GMT	700 mb.	Mean	283.3	283.2
459	Veraval	12 GMT	850 mb	Maximum	396	296

Sub-Division	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud		Sub-Division	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud	
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Division									Division—contd.								
1. Assam (Including Manipur, Tripura).	228.3 -131.0	64	32.6 +1.0	25.7 +0.6	85 -1	80	5.5 -0.8	4.7	8. Rajasthan . . .	137.7 -14.3	91	32.2 -0.8	25.1 0	83 +8	69	5.4 +0.6	5.7
2. West Bengal . . .	305.7 -59.3	83	31.3 -0.3	26.0 +0.1	86 +1	81	6.0 -0.2	5.5	9. Madhya Pradesh	388.0 +66.2	121	28.8 -0.5	23.2 0	88 +3	82	7.3 +0.9	7.2
3. Orissa . . .	260.9 -62.2	81	30.8 -0.3	25.6 0	86 +4	84	6.8 +0.9	7.0	10. Bombay . . .	286.4 +34.7	114	29.4 -0.7	23.8 0	87 +5	78	7.1 +0.6	7.1
4. Bihar . . .	296.5 -34.9	89	31.7 +0.5	25.3 +0.2	84 +1	81	6.7 +0.5	6.1	11. Andhra Pradesh .	182.9 +44.5	132	31.5 -1.1	24.4 -0.3	79 +2	69	6.9 +1.0	6.4
5. Uttar Pradesh . .	327.2 +20.1	107	32.4 +0.3	25.8 +0.3	85 +3	77	5.8 +0.2	5.6	12. Madras State . .	52.3 -36.9	59	34.2 +0.3	25.0 +0.4	69 -2	59	5.9 +1.3	6.2
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	265.3 +80.9	144	34.3 -0.3	25.9 -0.1	82 +6	71	4.3 0	4.1	13. Mysore . . .	236.3 -6.0	98	28.2 -0.4	21.3 +0.4	87 +4	72	7.1 +0.9	7.1
7. Jammu and Kashmir	62.3 -2.5	96	25.6 +0.5	13.5 +0.8	66 -8	56	4.0 +0.1	4.0	14. Kerala . . .	303.8 +0.8	100	28.9 +0.4	24.0 +0.4	88 0	82	6.7 +0.4	6.7
Sub-division									Sub-division—contd.								
1. Bay Islands . . .	310.3 -103.5	75	29.1 +0.5	24.6 +0.9	87 +3	90	6.8 +0.2	7.2	15. Madhya Pradesh (West).	358.9 +68.0	123	28.9 -0.6	23.1 0	89 +4	81	7.3 +0.9	7.2
2. Assam (Including Manipur, Tripura).	228.3 -131.0	64	32.6 +1.0	25.7 +0.6	85 -1	80	5.5 -0.8	4.7	16. Madhya Pradesh, (East).	429.6 +65.1	118	28.7 -0.4	23.4 +0.2	87 +2	82	7.2 +0.8	7.3
3. Sub-Himalayan West Bengal.	267.0 -241.3	53	31.2 -0.5	25.7 0	85 -1	77	5.5 +0.3	5.2	17. Gujarat . . .	266.7 +66.8	133	29.6 -1.4	24.5 +0.1	91 +7	80	7.4 +0.7	7.3
4. Gangetic West Bengal.	320.3 +8.9	103	31.3 -0.3	26.1 +0.2	86 +2	83	6.1 -0.3	5.6	18. Saurashtra and Kutch.	73.3 -30.6	71	30.5 -0.7	25.0 +0.1	88 +6	79	7.1 +0.9	7.1
5. Orissa . . .	260.9 -62.2	81	30.8 -0.3	25.6 0	86 +4	84	6.8 +0.9	7.0	19. Konkan . . .	473.9 -61.5	115	28.6 -0.4	24.9 +0.1	88 +3	86	7.3 -0.2	7.1
6. Bihar Plateau . . .	298.9 -44.6	87	31.0 +0.5	24.6 +0.2	85 +2	88	7.0 +0.6	6.3	20. Maharashtra (Including Marathwada)	277.4 +37.6	116	29.1 -0.3	21.6 +0.1	84 +5	70	6.7 +0.5	6.9
7. Bihar Plains . . .	294.5 -26.6	92	32.4 +0.6	26.2 +0.2	84 +1	79	6.4 +0.3	5.8	21. Vidarbha . . .	264.5 +30.6	113	29.5 -1.0	23.2 -0.2	87 +6	75	7.3 +1.1	7.2
8. Uttar Pradesh (East).	279.3 -26.9	91	32.5 +0.3	26.3 +0.5	85 +1	78	5.9 +0.3	5.8	22. Coastal Andhra Pradesh.	152.9 +24.5	119	32.2 -1.3	25.3 -0.5	78 +1	69	7.0 +1.0	6.2
9. Uttar Pradesh (West).	381.1 +72.9	124	32.3 +0.1	25.2 0	86 +5	76	5.5 +0.1	5.5	23. Telangana . . .	315.0 +128.4	169	29.3 -0.9	22.8 0	83 +5	73	6.8 +1.2	6.8
10. Punjab (India) (Including Delhi)	265.3 +80.9	144	34.3 -0.3	25.9 -0.1	82 +6	71	4.3 0	4.1	24. Rayalaseema . .	110.9 +0.5	100	32.8 -0.9	24.3 -0.1	7.3 +3	61	6.9 +0.9	6.7
11. Himachal Pradesh	279.1 ..	..	31.1 ..	23.1 ..	89 ..	75	6.4 ..	5.7	25. Madras State . .	52.3 -36.9	59	34.2 +0.3	25.0 +0.4	69 -2	59	5.9 +1.3	6.2
12. Jammu and Kashmir	62.3 -2.5	96	25.6 +0.5	13.5 +0.8	66 -8	56	4.0 +0.1	4.0	26. Coastal Mysore	561.5 -33.6	94	28.7 -0.1	23.5 0	89 -1	85	7.5 +0.7	7.4
13. Rajasthan (West)	98.5 +2.3	102	34.6 -0.7	26.1 +0.1	81 +8	61	4.2 +0.2	4.7	27. Interior Mysore (North).	147.5 +14.2	111	29.3 -0.2	21.6 +0.5	85 +4	69	7.1 +1.5	7.1
14. Rajasthan (East)	186.7 -35.1	84	29.9 -0.9	24.1 -0.2	86 +7	76	6.6 +1.1	6.7	28. Interior Mysore (South).	162.6 -12.4	93	26.9 -0.7	20.2 +0.4	87 +5	71	6.9 +0.4	7.0
									29. Kerala . . .	303.8 +0.8	100	28.9 +0.4	24.0 +0.4	88 0	82	6.7 +0.4	6.7
									30. Arabian Sea Islands.	191.1 -6.7	97	30.3 +0.8	25.5 +0.3	81 +1	78	6.6 +1.4	7.4

Note.—The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—AUGUST, 1959 (SHRAVANA 10—BHADRA 9, 1881 SAKA) 415

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed (km. p. h.)			Weather phenomena—No. of days with											
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20(a)	20(b)	21	22	23	24	25	26	27	28	29	
Hydrometeorological Observatories—(Contd.)																														
Ganga Catchment Mukhim	23.0	..	25.1	9.13	17.3	..	14.6	23	130.1	387.9	..	50.8	2	23	..	..	..	..	1	25	..	..	..	..	..	..	..	..	..	..
Tehri	32.4	..	34.9	12	23.3	..	20.9	23	70.6	246.0	..	28.0	26	11	..	4.0	2.8	..	0	14	0	0	2	0	0	0	0	0	0	0
Gandak Catchment Gorkha	..	..	..	..	..	..	..	..	0	212.4	..	104.1	8	6	..	..	..	..	0	10	..	..	..	..	..	..	..	..	..	..
Pokhara	29.3	..	31.0	25	21.9	..	19.4	22	47.9	492.8	..	55.6	14	17	..	..	..	..	0	23	..	..	..	..	..	..	..	..	..	..
Nawakot	29.5	..	31.7	31	21.5	..	20.2	23	121.3	458.8	..	64.0	8	23	..	..	..	..	0	25	..	..	..	..	..	..	..	..	..	..
Jomosom	24.1	..	26.4	14	..	..	..	..	0	15.6	..	8.4	22	2	..	..	..	..	0	6	..	..	..	..	..	..	..	..	..	..
Timure	26.4	..	28.4	24	17.4	..	15.4	26	23.8	222.3	..	31.7	10	20	..	..	..	..	0	23	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region) Dailekh	26.0	..	27.3	25	20.0	..	18.4	22	107.1	436.0	..	88.9	25	20	..	..	..	..	0	25	..	..	..	..	..	..	..	..	..	..
Gogra Catchment Dandeldhura	23.6	..	25.6	31	17.1	..	15.4	23	70.0	210.2	..	55.9	19	15	..	..	..	..	0	20	..	..	..	..	..	..	..	..	..	..
Munsiyari	..	..	..	..	..	..	..	..	..	460.2	..	50.0	1.8	22	..	..	..	..	0	26	..	..	..	..	..	..	..	..	..	..
Butwal	32.2	..	36.2	25	24.8	..	22.9	13	153.1	485.8	..	109.2	8	18	..	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment Katmandu†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment Chautara	27.0	..	29.0	31	18.6	..	16.9	22	68.9	559.8	..	74.2	12	22	..	..	..	..	1	25	..	..	..	..	..	..	..	..	..	..
Okhaldunga*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barahkshetra	31.5	..	34.3	31	24.5	..	23.6	14	189.8	297.0	..	48.6	22	24	..	6.7	3.6	..	1	27	0	0	9	0	0	0	0	0	0	0
Angbung	29.8	..	31.9	25	20.1	..	18.7	14	0	135.0	..	68.0	16	9	..	..	..	..	0	13	..	..	..	..	..	..	..	..	..	..
Taplejung	25.3	..	26.9	25	17.4	..	15.9	14	74.1	284.4	..	43.0	14	19	..	..	..	..	2	28	0	0	3	7	0	0	0	0	0	0
Walungchung Gola	17.5	..	19.6	13	9.8	..	8.4	22	79.8	351.3	..	29.6	10	28	..	..	..	..	1	30	..	..	..	..	..	..	..	..	..	..
Taplethok	28.6	..	31.1	26,28	18.5	..	17.5	31	138.4	504.0	..	57.0	17	26	..	..	..	..	1	27	..	..	..	..	..	..	..	..	..	..
Bhojpur	25.1	..	27.4	31	..	..	..	..	69.2	215.3	..	49.4	18	8	..	..	..	..	0	12	..	..	..	..	..	..	..	..	..	..
Chainpur	28.3	..	30.7	31	20.9	..	19.2	16	1.6	252.6	..	42.0	9	13	..	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..
Tista Catchment Gangtok	22.9	..	25.6	25,27	16.7	..	15.2	14	93.5	316.5	..	33.6	12	22	..	4.1	3.3	..	0	29	0	0	8	21	0	0	0	0	0	0
Geyzing	27.7	..	30.7	31	18.5	..	16.3	14	14.1	372.5	..	31.6	10	16	..	..	..	..	0	20	..	..	..	..	..	..	..	..	..	..

* Data not available.

† Data included under "Hill stations".

(a) Mean of 30 days.

(b) Mean of 29 days.

(f) Mean of 25 days.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C					Cloud amount (Oktas)		Wind speed (km. p. h.)			No. of observations												
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.	Relative humidity %	Departure from normal	Mean amount	Departure from normal	Mean wind speed in km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Gangetic West Bengal—(Contd.) Dum Dum—(Contd.)	0830	6	1000.2	999.5	..	28.8	26.7	25.8	33.2	84	..	7.0	..	8.5	0	0	31	0	2	4	8	9	7	1	0	0	0	0
	1130	"	999.7	999.0	..	30.0	27.0	25.8	33.0	79	..	6.8	..	9.5	0	0	31	0	1	4	10	8	4	3	1	0	0	0
	1730	"	997.3	996.6	..	29.2	26.9	25.9	33.7	83	..	6.7	..	8.0	0	0	31	0	0	2	8	14	3	3	1	0	0	0
	2330	"	999.9	999.2	..	27.3	26.3	25.8	33.1	91	..	5.8	..	6.5	0	0	30	0	0	5	8	11	5	1	0	1	0	0
Calcutta	0830	6	1000.0	999.3	-1.9	28.6	26.5	25.6	33.1	84	-1	6.5	-0.2	8.8	0	0	30	0	2	7	9	1	10	1	0	1	0	0
	1130	"	999.6	998.9	..	30.0	26.8	25.5	33.4	78	..	6.5	..	9.3	0	1	27	0	3	4	6	4	9	1	1	3	0	0
	1730	"	997.3	996.6	..	29.3	26.7	25.5	33.0	81	..	6.5	..	7.8	0	0	30	0	0	1	8	11	8	2	0	1	0	0
Barrackpore	0530	7	999.2	998.5	..	26.7	26.1	25.9	34.6	95	..	6.9	..	7.2	0	0	26	1	2	8	4	6	4	1	0	5	0	0
	0830	"	1000.6	999.9	..	28.7	26.7	25.8	33.3	85	..	7.1	..	10.6	0	2	26	0	0	10	7	4	4	2	1	3	0	0
	1130	"	1000.1	999.4	..	30.2	27.2	26.0	33.7	79	..	6.8	..	13.1	0	2	29	0	3	9	6	3	6	4	0	0	0	0
	1730	"	997.7	997.0	..	28.9	26.7	25.8	33.2	84	..	6.7	..	8.5	0	1	26	0	0	3	9	6	8	1	0	4	0	0
Saugor Island	2330	"	1000.4	999.6	..	27.1	26.3	25.9	34.7	94	..	5.5	..	4.8	0	0	19	0	0	5	2	6	6	0	0	12	0	0
	0830	3	999.7	999.4	-1.9	28.5	26.9	26.2	34.3	87	+3	6.4	-0.4	21.8	0	15	16	1	1	5	5	4	13	2	0	0	0	0
	1730	"	997.3	997.0	..	28.6	26.9	26.3	34.0	87	..	6.3	..	19.7	0	12	17	0	0	2	6	10	10	1	0	2	0	0
	0530	10	998.3	997.2	..	28.1	26.3	25.5	32.9	86	..	6.7	..	20.2	0	18	12	0	1	2	2	5	13	7	0	1	0	0
Sandheads	0830	"	999.7	998.6	-2.4	28.6	26.5	25.7	32.9	84	+1	6.5	+0.7	20.4	0	11	20	0	0	4	4	3	10	9	1	0	0	0
	1130	"	999.4	998.3	..	28.7	26.5	25.6	32.9	83	..	6.6	..	20.1	0	12	19	0	0	2	5	4	13	6	0	0	1	0
	1730	"	997.3	996.2	..	28.7	26.7	25.8	33.5	84	..	6.8	..	21.0	0	17	13	1	0	3	2	5	17	2	0	1	0	0
	2330	"	999.4	998.3	..	28.3	26.5	25.7	33.1	86	..	2.0	..	20.5	0	13	18	0	0	1	5	2	18	4	1	0	0	0
Contai	0830	11	999.7	998.5	..	28.5	26.6	25.8	32.8	85	..	6.1	..	6.3	0	0	27	1	1	0	8	2	14	1	0	4	0	0
	1730	"	997.2	996.0	..	28.5	26.6	25.7	33.1	85	..	5.9	..	7.3	0	0	28	0	0	0	8	7	12	1	0	3	0	0
Midnapore	0830	45	1000.0	994.9	-1.7	28.5	26.3	25.3	34.0	83	0	6.3	+0.6	3.9	0	0	26	0	2	6	3	5	6	3	1	5	0	0
	1730	"	997.2	992.2	..	29.3	26.5	25.3	32.4	80	..	4.9	..	3.3	0	0	26	0	1	2	7	5	11	0	0	5	0	0
Purulia	0830	255	1000.2	972.2	..	27.3	25.3	24.4	30.6	84	..	7.6	..	5.1	0	0	29	2	1	5	6	3	6	1	5	2	0	0
	1730	"	997.0	969.1	..	28.3	25.5	24.1	30.5	78	..	7.0	..	4.0	0	0	30	1	0	4	11	6	5	0	3	1	0	0
Burdwan	0830	32	1000.7	997.0	-1.2	28.8	26.7	26.2	33.6	87	+3	4.4	-2.2	0.9	0	0	9	0	0	2	0	3	4	0	0	22	0	0
	1730	"	997.7	994.1	..	29.5	27.5	26.4	35.0	84	..	4.2	..	1.7	0	0	12	0	0	5	0	4	3	0	0	19	0	0
Kriahnagar	0830	15	1000.4	998.7	-2.0	28.5	26.7	26.2	33.5	87	+3	5.4	-0.8	3.4	0	0	29	0	0	12	6	10	1	0	0	2	0	0
	1730	"	997.1	995.4	..	29.7	26.7	26.3	32.7	83	..	4.9	..	3.0	0	0	31	0	1	1	0	0	29	0	0	0	0	0
Asansol	0230	126	998.4	984.4	..	26.4	25.8	25.7	32.8	96	..	6.0	..	3.6	0	0	16	0	0	2	10	0	2	1	1	15	0	0
	0530	"	998.6	984.5	..	26.1	25.6	25.4	32.3	96	..	7.1	..	2.5	0	0	16	0	0	5	7	2	2	0	0	15	0	0
	0830	"	999.9	985.8	-1.4	27.7	26.1	25.4	33.2	88	+3	6.9	+0.3	6.1	0	0	25	0	0	7	11	1	3	3	0	6	0	0
	1130	"	999.4	985.5	..	29.4	26.7	25.5	32.7	79	..	6.7	..	7.5	0	0	28	0	1	7	14	0	1	5	0	3	0	0
Suri	1730	"	996.9	982.9	..	28.8	26.5	25.6	32.5	83	..	6.7	..	6.4	0	0	2	0	0	8	13	0	1	4	1	4	0	0
	2330	"	999.4	985.5	..	26.8	25.9	25.6	32.8	93	..	5.7	..	4.1	0	0	18	0	0	4	9	1	3	1	0	13	0	0
	0830	77	1000.7	992.1	..	27.8	26.4	25.6	32.2	86	..	6.9	..	7.1	0	0	30	0	3	10	8	5	1	2	1	1	0	0
	1730	"	997.8	989.2	..	29.5	26.7	25.4	32.6	80	..	6.7	..	8.5	0	0	31	0	5	6	13	2	2	2	1	0	0	0
Berhampore	0830	19	1000.1	998.0	-1.9	28.3	26.4	25.9	32.8	87	+2	7.1	+0.5	3.1	0	0	18	0	0	15	1	2	0	0	0	13	0	0
	1730	"	996.9	994.9	..	29.8	27.1	26.0	33.7	81	..	6.0	..	3.4	0	0	20	0	0	9	0	11	0	0	0	11	0	0
Orissa Baripada	0830	54	1000.6	994.6	..	27.7	25.9	25.3	32.1	86	..	7.1	..	1.6	0	0	17	2	1	3	2	1	6	2	0	14	0	0
	1730	"	997.8	991.8	..	29.2	26.5	25.4	32.1	80	..	6.3	..	2.3	0	0	21	1	0	1	8	2	7	1	1	10	0	0
Balasore	0830	20	999.7	997.5	-1.9	28.2	26.5	25.7	33.2	86	+3	6.7	+1.0	11.6	0	2	27	0	3	2	2	6	14	1	1	2	0	0
	1730	"	997.3	995.2	..	28.8	26.7	25.9	33.3	84	..	6.4	..	9.6	0	5	20	2	0	1	5	5	12	0	0	6	0	0
Chandbali	0830	6	1000.5	999.8	-1.6	28.2	26.1	25.7	32.1	86	+3	6.0	-0.1	8.8	0	0	30	0	0	3	5	4	8	9	1	0	0	0
	1730	"	997.5	996.9	..	28.8	26.8	26.1	33.6	83	..	6.5	..	7.5	0	0	30	0	0	3	7	8	5	6	1	1	0	0
Cuttack	0830	27	1000.6	997.6	-2.3	27.5	26.2	25.5	32.9	89	+8	6.3	+0.3	0.4	0	0	2	0	1	0	0	0	1	0	0	29	0	0
	1730	"	1000.0	997.0	..	28.7	26.6	25.6	33.1	85	..	6.8	..	0.5	0	0	3	0	0	0	0	1	2	0	0	28	0	0
	0230	46	998.9	993.7	..	26.1	25.5	25.2	30.9	95	..	7.0	..	9.6	0	4	22	1	2	0	1	2	16	3	1	5	0	0
	0530	"	999.0	993																								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—AUGUST, 1959 (SRAVANA 10—BHADRA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mba.	Relative humidity%	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed, (km.p.h.)			No. of observations									
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
			4	5	6	7	8	9				10	11		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Orissa—(Contd.) Gopalpur—(Contd.)	1730	17	998.2	996.3	..	28.3	26.4	25.6	32.8	86	..	7.2	..	23.1	0	18	10	1	0	0	1	8	17	0	1	3	0
	2330	..	1000.5	998.6	..	27.2	25.8	25.5	32.2	90	..	6.1	..	11.7	0	7	17	0	0	1	0	5	14	2	2	7	0
Koraput	0830	913	1437.2	903.2	..	21.5	21.0	20.3	24.5	91	..	6.5	..	17.8	0	11	20	1	1	0	0	1	6	19	4	0	0
	1730	..	1424.7	901.4	..	22.4	21.1	20.4	21.2	88	..	6.7	..	14.8	0	8	23	1	0	0	0	0	5	20	5	0	0
Titilagarh	0830	211	1001.3	977.5	..	26.3	24.5	23.7	29.3	86	..	5.5	..	3.0	0	0	29	1	2	0	3	7	16	0	0	2	0
	1730	..	997.8	974.4	..	27.4	25.3	24.3	30.5	82	..	6.2	..	2.9	0	0	29	1	4	0	3	8	13	0	0	2	0
Bolangir	0830	190	999.9	978.7	..	26.6	24.5	23.4	29.1	83	..	7.2	..	6.4	0	0	31	3	2	1	3	12	10	0	0	0	0
	1730	..	998.0	976.8	..	26.7	24.4	23.7	28.8	82	..	7.6	..	6.3	0	0	31	3	2	0	3	12	10	0	1	0	0
Angul	0830	139	1000.6	985.1	-1.3	26.7	24.8	24.2	30.0	85	+4	7.8	+1.8	8.7	0	3	24	0	2	4	3	0	4	7	7	4	0
	1730	..	997.7	982.4	..	28.6	25.7	24.3	30.5	78	..	7.8	..	12.2	0	3	28	0	1	3	4	2	6	10	5	0	0
Keonjhar	0830	463	1000.1	946.4	..	25.6	23.6	22.5	27.7	84	..	7.0	..	7.9	0	0	30	0	3	6	2	1	3	14	1	1	0
	1730	..	997.7	944.2	..	26.1	23.8	22.8	27.7	82	..	7.5	..	4.0	0	0	30	1	1	4	4	2	4	12	2	1	0
Sambalpur	0830	148	1000.4	983.9	-1.6	27.1	25.0	24.1	30.0	84	-1	6.9	+0.2	7.4	0	0	31	2	3	2	1	6	13	4	0	0	0
	1730	..	997.6	981.1	..	27.5	25.5	24.6	31.0	84	..	7.0	..	4.1	0	0	25	0	0	3	3	5	9	3	2	6	0
Jharsuguda	0230	230	998.6	973.0	..	25.0	24.5	24.2	30.6	96	..	7.4	..	6.7	0	0	25	2	3	1	2	3	10	4	0	6	0
	0530	..	998.7	973.1	..	24.8	24.4	24.2	30.2	97	..	7.5	..	7.8	0	0	27	0	5	1	2	3	10	6	0	4	0
	0830	..	1000.1	974.5	..	26.3	25.0	24.4	30.6	90	..	7.7	..	7.6	0	0	28	0	6	1	0	3	9	9	0	3	0
	1130	..	999.5	974.1	..	28.0	25.6	24.6	30.7	82	..	7.4	..	9.0	0	0	29	0	2	3	2	2	6	14	0	2	0
	1730	..	997.0	971.6	..	27.3	25.5	24.7	31.2	86	..	7.5	..	8.0	0	1	26	0	2	4	3	3	4	10	1	4	0
	2330	..	999.7	974.1	..	25.8	25.0	24.7	31.3	96	..	7.1	..	6.5	0	0	26	1	3	3	3	2	9	5	0	5	0
Bihar Plateau Jamshedpur	0830	129	999.9	985.5	-1.7	27.1	25.6	24.7	31.5	86	+4	7.2	+0.3	7.1	0	0	27	0	2	9	3	1	2	10	0	4	0
	1730	..	997.0	982.7	..	28.7	26.1	25.1	31.7	81	..	6.6	..	6.4	0	0	27	0	1	9	6	1	3	6	1	4	0
Jamshedpur (P.B.O.)	0530	145	998.5	982.2	..	25.9	25.1	24.6	31.2	92	..	4.1	..	3.3	0	0	18	0	7	3	0	0	6	2	0	13	0
	0830	..	999.8	983.7	..	27.6	25.3	24.6	31.3	84	..	7.2	..	6.4	0	0	30	0	6	3	4	1	10	4	0	1	0
	1130	..	999.3	983.2	..	29.4	26.2	24.7	31.4	77	..	6.9	..	7.8	0	0	30	1	5	5	1	2	12	3	1	1	0
	1730	..	996.8	980.8	..	28.6	25.9	24.7	31.2	80	..	7.1	..	6.5	0	0	29	0	5	7	4	2	7	3	1	2	0
	2330	..	999.5	983.3	..	26.6	25.4	24.9	31.7	91	..	6.3	..	4.1	0	0	22	1	5	6	2	0	5	1	2	9	0
Chaibasa	0830	226	999.8	974.8	-1.2	27.2	25.2	24.3	30.6	85	+2	7.1	+0.7	2.4	0	0	22	0	6	0	3	1	7	3	2	9	0
	1730	..	996.9	972.0	..	27.8	25.4	24.4	30.2	82	..	6.9	..	2.0	0	0	17	0	3	0	4	0	9	0	1	14	0
Ranchi	0830	655	999.6	928.4	-1.2	25.1	23.5	22.7	27.8	86	+1	7.4	-0.7	7.2	0	0	4	0	0	0	1	1	0	2	0	27	0
	1730	..	997.4	926.5	..	25.6	23.6	22.8	27.7	85	..	6.5	..	0.2	0	0	1	0	0	0	1	0	0	0	0	30	0
Ranchi (C.W.O.)	0530	652	998.4	927.3	..	23.2	22.6	22.3	27.0	94	..	7.5	..	7.4	0	0	23	1	4	5	0	5	7	0	1	8	0
	0830	..	999.3	927.4	..	24.8	23.2	22.5	27.2	87	..	7.6	..	7.9	0	0	23	1	3	8	0	5	4	2	0	8	0
	1130	..	998.9	928.3	..	26.3	23.7	22.5	27.3	80	..	7.6	..	11.2	0	1	28	2	3	8	2	8	5	1	0	2	0
	1730	..	996.4	925.9	..	25.7	23.7	22.9	27.9	84	..	7.4	..	7.3	0	0	28	2	3	9	0	8	4	2	0	3	0
Daltonganj	0830	221	999.5	975.1	-1.5	28.5	25.9	24.6	31.5	79	-4	6.9	+1.9	1.6	0	0	12	0	0	7	0	0	0	5	0	19	0
	1730	..	996.3	971.7	..	28.9	26.2	25.0	31.6	80	..	6.8	..	1.5	0	0	11	1	1	4	1	0	0	4	0	20	0
Hazaribagh	0830	611	999.8	933.1	-1.6	24.8	23.8	23.3	29.6	91	+7	7.3	+0.1	7.0	0	0	27	0	1	8	7	2	0	1	8	4	0
	1730	..	996.7	930.5	..	26.5	24.5	23.8	29.4	85	..	6.3	..	5.6	0	0	24	0	0	6	10	1	0	0	7	7	0
Dhanbad	0830	257	998.5	970.0	..	27.3	25.6	25.0	31.3	87	..	7.2	..	3.3	0	0	29	1	2	10	5	2	3	6	0	1	0
	1730	..	996.6	968.2	..	28.2	26.1	25.1	32.1	83	..	6.9	..	3.2	0	0	25	0	5	6	7	4	2	0	1	5	0
Dumka	0830	149	1000.0	983.4	-1.7	28.1	26.0	25.1	31.9	84	+1	5.9	+0.1	4.2	0	0	23	0	2	11	4	1	2	2	1	8	0
	1730	..	997.7	981.2	..	28.7	26.3	25.1	32.4	82	..	5.0	..	3.4	0	0	25	2	0	13	5	1	1	3	0	6	0
Bihar Plains— Purnea	0830	38	1000.8	996.5	-1.5	29.1	26.9	26.1	33.8	84	-2	5.9	+0.1	4.0	0	0	25	1	3	19	1	0	0	1	0	6	0
	1730	..	997.5	993.3	..	29.3	27.4	26.5	34.6	81	..	4.2	..	2.9	0	0	20	0	0	18	0	0	0	2	0	11	0
Forbesganj	0830	61	1000.7	994.0	..	29.1	26.9	26.0	33.6	84	..	6.5	..	8.0	0	0	30	0	1	25	0	1	1	2	0	1	0
	1730	..	997.3	990.8	..	31.5	27.4	25.7	33.1	73	..	5.5	..	8.3	0	0	29	0	0	20	2	5	1	1	0	2	0
Darbhanga	0830	49	1000.9	995.4	-0.8	29.5	26.8	25.8	32.7	80	-2	6.3	+0.2	2.9	0	0	30	0	8	12	8	0	1	1	0	1	0
	1730	..	997.7	992.2	..	30.9	27.3	25.8	33.3	75	..	6.0	..	3.0	0	0	31	0	4	9	13	1	2	2	0	0	0
Motihari	0830	66	1000.3	992.9	-1.5	29.7	27.1	26.4	33.6	82	0	4.1	-														

Division and station	Hour of observation	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km. p. h.)			No. of observations										
			At mean sea level or height in span of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, in km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
			1	2	3	4	5	6				7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bihar Plains—(Contd.) Darr	0830	107	999.2	987.2	..	28.0	26.4	25.5	33.1	87	..	5.9	..	3.6	0	0	30	0	1	9	11	2	2	2	3	1	0
	1730	..	995.9	983.9	..	30.2	27.0	25.8	33.1	78	..	6.0	..	5.0	0	0	31	2	3	9	5	1	2	6	3	0	0
Gaya	0230	116	998.6	985.6	..	27.0	26.1	25.7	33.3	92	..	6.5	..	6.4	0	2	18	0	0	5	7	2	3	1	2	11	0
	0530	..	998.6	985.6	..	26.6	25.7	25.5	32.3	93	..	6.5	..	5.1	0	0	22	1	1	8	4	2	0	5	0	9	1
	0830	..	999.9	986.9	-1.2	28.4	26.3	25.4	32.0	84	+7	6.8	+1.6	10.1	0	3	24	1	1	7	7	3	0	5	2	4	1
	1130	..	999.5	906.6	..	30.3	27.0	25.5	32.9	77	..	6.8	..	11.0	0	3	25	2	3	10	5	0	1	4	3	3	0
	1730	..	996.7	983.8	..	30.0	27.1	25.9	33.9	80	..	6.8	..	11.9	0	3	25	1	1	13	6	0	0	4	3	3	0
Janui	2330	..	999.6	986.6	..	27.5	26.4	25.9	33.5	91	..	6.1	..	6.4	0	1	22	0	0	8	6	0	2	6	1	3	0
	0830	82	999.6	990.3	..	28.8	27.0	26.4	34.8	87	..	6.7	..	5.3	0	0	26	0	0	20	3	0	0	1	2	5	0
Bhagalpur	1730	..	996.5	987.4	..	30.0	27.5	26.5	34.7	83	..	6.3	..	4.6	0	0	27	0	3	16	2	1	0	2	3	4	0
	0530	40	999.2	993.7	..	26.9	26.2	26.0	33.3	95	..	6.3	..	7.4	0	3	24	0	1	10	11	0	2	2	1	4	0
	0830	..	1000.4	994.9	..	28.8	26.8	26.1	33.7	85	..	6.2	..	6.9	0	0	29	0	3	13	10	0	2	1	0	2	0
	1130	..	1000.0	994.6	..	30.6	27.5	26.3	34.2	78	..	6.6	..	7.9	0	2	26	0	1	13	10	1	1	2	0	3	0
Sabour	1730	..	997.3	991.9	..	30.1	27.3	26.3	34.0	81	..	6.3	..	6.1	0	0	29	0	1	13	11	2	1	1	0	2	0
	*2330	..	1000.4	994.9	..	28.0	26.8	26.3	33.0	90	..	4.6	..	6.6	0	0	23	1	0	9	10	1	0	1	1	3	0
Uttar Pradesh (East) Gonda	0830	37	1000.2	996.1	-1.6	28.7	27.0	26.2	35.0	87	+2	6.6	0	6.6	0	0	30	1	2	18	5	1	1	2	0	1	0
	1730	..	997.1	993.0	..	29.8	27.5	26.5	34.3	84	..	6.4	..	6.9	0	0	29	1	3	13	9	0	0	2	1	2	0
Nautanwa	0830	110	999.9	987.6	..	28.6	26.7	26.0	33.4	89	+5	5.9	-0.3	2.9	0	0	20	0	0	18	0	0	0	2	0	11	0
	1730	..	997.0	984.9	..	30.2	27.3	25.9	34.4	78	..	4.7	..	1.0	0	0	10	0	0	9	0	0	0	1	0	21	0
Gorakhpur	0830	99	1000.3	989.3	..	28.8	26.4	25.2	32.4	83	..	4.7	..	5.3	0	0	28	1	3	12	11	0	0	1	0	3	0
	1730	..	997.4	986.5	..	30.7	27.2	25.9	33.4	76	..	3.9	..	5.1	0	0	28	2	1	8	10	2	3	1	1	3	0
Gorakhpur (P.B.O.)	0830	77	1001.1	992.2	+0.5	30.3	27.3	25.4	34.0	77	-8	6.3	+1.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	996.8	988.0	..	30.8	27.5	25.9	34.3	76	..	6.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Azamgarh	0230	78	998.4	989.7	..	27.7	26.9	26.3	34.9	89	..	5.2	..	5.6	0	0	26	2	15	3	2	1	2	0	1	5	0
	0530	..	998.6	989.8	..	27.5	26.4	25.9	33.8	91	..	6.0	..	5.1	0	0	28	1	18	4	2	1	1	1	0	3	0
	1130	..	999.6	991.0	..	31.0	27.5	26.1	33.8	76	..	6.3	..	8.4	0	0	31	0	8	12	5	1	4	0	1	0	0
	2330	..	999.5	990.8	..	28.5	27.1	26.5	35.3	90	..	5.2	..	4.3	0	0	26	3	14	6	1	0	2	0	0	5	0
Ballia	0830	78	998.9	990.6	..	29.1	27.7	27.1	35.6	91	..	5.8	..	..	0	0	31	0	0	28	0	1	0	2	0	0	0
	1730	..	996.3	988.0	..	29.6	28.4	27.9	37.7	90	..	5.4	..	..	0	0	19	0	0	16	0	1	0	2	0	12	0
Varanasi (Banaras)	0830	64	999.9	992.8	..	27.9	26.4	25.9	33.3	89	..	5.1	..	5.9	0	0	25	0	11	3	8	0	1	0	2	6	0
	1730	..	998.2	991.1	..	31.1	27.9	27.5	35.4	79	..	3.6	..	6.4	0	1	23	0	6	6	8	0	0	2	2	7	0
Varanasi (Banaras) (Bahatpur Aerodrome)	0830	76	998.9	990.6	-1.8	28.9	27.0	26.1	34.0	86	+2	5.0	-1.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	997.0	988.6	..	30.4	27.5	26.1	35.1	82	..	5.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0530	85	999.1	989.6	..	26.3	26.1	25.8	33.1	97	..	5.9	..	7.7	0	1	22	1	6	7	0	1	2	5	1	8	0
	0830	..	1000.3	990.8	..	28.5	26.9	26.3	33.6	89	..	5.9	..	11.9	0	3	27	0	6	8	4	3	5	3	1	1	0
Allahabad (Bamrauli)	1130	..	1000.1	990.6	..	31.1	27.8	27.1	35.4	81	..	6.4	..	14.0	0	4	27	2	6	11	1	1	4	3	2	0	1
	1730	..	997.4	987.9	..	29.6	27.7	26.9	35.1	86	..	6.2	..	9.3	0	2	24	2	7	7	1	1	4	2	1	5	1
	2330	..	1000.1	990.6	..	27.5	26.7	26.5	34.1	94	..	4.9	..	10.2	0	2	27	1	9	6	0	2	6	2	3	2	0
	0230	98	998.1	987.1	..	26.9	25.9	25.6	32.4	92	..	5.8	..	6.6	0	1	26	1	3	9	2	2	1	7	2	4	0
	0530	..	998.0	987.0	..	26.6	25.8	25.6	32.6	94	..	6.1	..	7.3	0	0	27	1	5	10	1	3	0	4	3	4	0
	0830	..	999.3	988.3	-1.6	28.5	26.5	25.7	33.2	85	+1	6.8	0	9.4	0	0	31	1	1	12	3	3	2	6	3	0	0
Sultampur	1130	..	999.2	988.3	..	30.4	27.2	26.0	33.8	78	..	6.7	..	10.9	0	0	31	4	2	11	2	1	2	7	2	0	0
	1730	..	996.3	985.4	..	30.0	26.9	25.7	33.1	79	..	6.8	..	8.0	0	0	30	1	7	8	0	2	1	5	6	1	0
Fairabad	2330	..	999.0	988.1	..	27.6	26.4	25.9	33.5	90	..	5.4	..	5.6	0	1	27	2	5	9	1	3	1	6	1	3	0
	0830	97	999.8	988.7	..	29.3	27.0	26.0	34.3	83	..	5.5	..	3.9	0	0	28	2	0	19	3	1	1	2	0	3	0
Banda	1730	..	996.3	985.9	..	31.0	27.3	26.4	31.5	80	..	6.2	..	2.8	0	0	25	0	0	20	3	0	0	2	0	6	0
	0830	102	999.4	988.1	..	28.6	26.6	25.7	32.8	85	..	6.0	..	5.2	0	0	27	1	9	5	9	1	2	0	0	4	0
Pachpur	1730	..	996.4	985.2	..	30.0	27.1	25.8	33.1	79	..	6.0	..	3.7	0	0	23	0	6	6	7	1	2	0	1	8	0
	0830	121	999.5	986.0	..	28.1	26.8	26.4	34.7	90	..	5.7	..	3.0	0	0	21	0	3	4	5	1	6	1	1	10	0
Kanpur	1730	..	996.8	983.4	..	30.2	27.5	26.4	33.9	79	..	4.7	..	2.9	0	0	30	0	5	2	8	0	6				

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—AUGUST, 1959 (SRAVANA 10—BHADRA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer taken above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																												Wind direction
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Uttar Pradesh (East) —(Contd.) Lucknow	0830	111	1000.5	988.2	-0.1	28.4	26.6	25.8	32.8	87	+4	5.5	-0.4	3.7	0	0	26	1	0	19	0	1	0	5	0	5	0	
	1730	"	997.2	985.0	"	30.9	27.8	26.4	34.8	78	"	5.1	"	4.7	0	0	30	2	0	20	0	4	0	4	0	1	0	
Lucknow (Amausi Aerodrome)	0230	128	998.1	983.8	"	26.7	26.1	25.8	33.4	95	"	4.7	"	6.4	0	3	14	0	7	3	1	1	3	2	0	14	0	
	0530	"	998.2	983.9	"	26.3	25.8	25.6	32.3	96	"	5.5	"	5.5	0	1	19	0	8	6	1	1	1	3	0	11	0	
	0830	"	999.5	985.3	-1.2	28.4	26.6	25.7	32.8	86	+5	6.3	+0.4	9.8	0	4	21	1	7	11	1	0	3	1	1	6	0	
	1130	"	999.3	985.2	"	30.3	27.1	25.8	32.8	78	"	6.1	"	13.2	0	6	25	2	1	12	8	1	3	1	3	0	0	
	1730	"	996.3	982.2	"	30.2	27.1	25.9	33.9	78	"	6.1	"	9.7	0	1	26	0	4	10	4	2	3	2	2	4	0	
	2330	"	999.0	984.7	"	27.2	26.5	26.2	33.7	94	"	4.4	"	4.6	0	3	10	1	3	3	0	1	3	2	0	18	0	
Hardoi	0830	142	999.5	983.6	"	28.4	26.4	25.6	32.8	85	"	5.0	"	4.5	0	0	24	0	0	14	4	0	1	5	0	7	0	
	1730	"	996.3	980.7	"	31.1	27.6	26.2	33.8	76	"	5.2	"	3.4	0	0	24	3	0	10	2	1	1	7	0	7	0	
Lakhimpur Kheri	0830	147	999.9	983.5	"	28.0	27.0	26.6	34.8	92	"	5.6	"	1.9	0	0	14	0	0	13	0	0	0	1	0	17	0	
	1730	"	996.1	979.9	"	30.9	28.0	26.9	35.4	79	"	5.7	"	1.7	0	0	16	1	0	12	0	0	0	3	0	15	0	
Bahraich	0830	124	999.5	985.7	-1.4	28.6	26.5	25.5	34.0	83	+1	6.2	+1.7	7.2	0	0	30	1	0	23	0	2	0	4	0	1	0	
	1730	"	997.4	983.6	"	30.4	26.9	25.3	32.3	75	"	5.9	"	5.7	0	0	30	1	0	20	2	2	0	5	0	1	0	
Uttar Pradesh (West) Orai	0830	141	1000.0	984.3	"	28.8	26.8	26.2	33.8	87	"	5.1	"	4.0	0	0	31	0	10	3	2	1	4	4	7	0	0	
	1730	"	998.3	982.7	"	30.0	27.5	26.6	34.9	83	"	6.7	"	4.2	0	0	30	0	2	0	2	1	0	2	23	1	0	
Jhansi	0830	251	999.6	971.7	-1.8	26.4	25.0	24.3	30.6	87	+7	5.9	+0.9	2.4	0	0	24	2	4	1	3	0	1	5	8	7	0	
	1730	"	997.5	969.7	"	29.5	25.9	24.6	30.3	76	"	5.3	"	1.9	0	0	19	4	0	6	1	0	0	4	4	12	0	
Agra	0830	169	999.6	980.9	-1.1	28.3	26.3	25.6	32.8	86	+9	4.9	-0.7	1.0	0	0	9	0	0	5	0	0	1	1	2	22	0	
	1730	"	996.8	978.2	"	30.7	27.1	25.3	32.6	76	"	4.3	"	0.8	0	2	0	0	0	0	0	0	1	1	0	29	0	
Agra (Aerodrome)	0530	169	998.6	979.6	"	26.3	25.5	25.1	31.6	93	"	5.7	"	"	0	1	20	1	5	4	0	1	7	3	0	10	0	
	0830	"	999.7	980.8	"	28.5	26.2	25.4	32.4	83	"	6.1	"	"	0	3	26	1	7	5	1	1	5	7	2	2	0	
	1130	"	999.8	981.0	"	31.1	26.8	25.2	31.9	72	"	6.8	"	"	0	3	26	0	6	7	3	0	2	6	5	2	0	
	1730	"	996.9	978.2	"	31.1	26.7	24.8	31.3	70	"	6.1	"	"	0	2	28	1	7	6	1	1	5	6	3	1	0	
	2330	"	999.2	980.2	"	27.7	26.3	25.8	32.2	90	"	5.0	"	"	0	1	18	0	6	2	0	4	7	0	0	12	0	
Mainpuri	0830	157	998.9	981.4	-1.8	28.7	26.6	25.8	32.6	84	+3	4.9	-0.6	1.3	0	0	13	0	0	7	2	0	1	3	0	18	0	
	1730	"	996.8	979.5	"	30.9	27.3	25.7	33.3	75	"	5.3	"	0.7	0	0	9	0	0	4	1	0	0	4	0	21	0	
Aligarh	0830	187	999.6	978.8	"	28.9	26.4	25.5	32.4	83	+5	6.2	+1.6	2.5	0	0	24	5	2	12	0	1	0	2	2	7	0	
	1730	"	996.7	976.1	"	31.6	27.2	25.3	32.5	69	"	6.5	"	1.6	0	0	17	2	0	7	0	4	0	4	0	14	0	
Bareilly	0830	173	999.5	980.4	-1.3	29.3	26.7	25.7	33.2	83	-1	5.7	-0.2	4.2	0	0	22	0	1	12	5	0	0	2	2	9	0	
	1730	"	996.3	977.4	"	30.6	27.0	25.3	32.6	74	"	6.4	"	1.8	0	0	11	0	0	6	2	0	0	1	2	20	0	
Bareilly (P.B.C.)	0230	172	998.3	979.2	"	27.6	26.1	25.6	32.8	89	"	4.5	"	4.0	0	0	24	1	3	14	3	1	1	1	0	7	0	
	0530	"	998.4	979.2	"	27.2	25.9	25.5	32.2	90	"	6.1	"	4.2	0	0	24	0	3	14	4	0	0	2	1	7	0	
	1130	"	999.5	980.5	"	30.7	27.0	25.7	32.6	75	"	6.4	"	6.4	0	0	28	1	4	10	9	1	0	2	1	3	0	
	2330	"	999.1	980.0	"	28.3	26.5	25.9	32.8	87	"	4.5	"	2.8	0	0	21	0	0	11	5	0	1	3	1	10	0	
Meerut	0830	222	1000.2	975.7	-0.5	28.1	26.2	25.1	32.2	82	+2	5.0	-0.2	2.4	0	0	13	0	3	10	0	0	0	0	0	0	18	0
	1730	"	997.3	967.8	"	30.4	26.8	25.2	32.3	75	"	3.9	"	3.8	0	0	25	2	3	0	9	0	0	3	8	6	0	
Roorkee	0830	274	1000.2	969.7	-0.9	26.9	25.6	25.1	31.1	91	+9	5.4	+0.1	0.8	0	0	8	0	0	6	0	0	0	0	2	23	0	
	1730	"	996.6	966.6	"	30.6	27.1	25.6	32.6	75	"	4.6	"	0.4	0	0	4	0	0	4	0	0	0	0	0	0	27	0
Delhra Dun	0530	682	999.6	925.1	"	23.2	22.6	22.3	27.0	95	"	6.8	"	1.8	0	0	13	4	2	0	1	2	0	4	0	18	0	
	0830	"	1000.4	926.2	-0.7	24.9	23.7	22.9	28.0	90	+5	6.3	-0.2	0.8	0	0	8	2	2	0	1	2	0	0	1	23	0	
	1130	"	1000.1	926.4	"	26.9	24.2	23.1	27.4	81	"	6.2	"	3.1	0	0	25	1	3	0	3	4	6	5	3	6	0	
	1730	"	997.2	923.5	"	27.1	24.8	23.9	29.9	84	"	5.8	"	1.7	0	0	17	3	0	0	3	1	0	8	2	14	0	
	2330	"	999.9	925.7	"	24.5	23.7	23.3	28.5	93	"	5.7	"	2.3	0	0	16	4	4	1	3	0	2	2	0	15	0	
Punjab (India) (Including Delhi) New Delhi	0230	216	998.3	974.3	"	27.6	25.8	25.0	31.3	86	"	4.4	"	4.7	0	0	20	1	1	6	2	1	3	6	0	11	0	
	0530	"	998.4	974.3	"	27.0	25.4	24.8	30.9	88	"	5.5	"	5.3	0	1	18	0	3	4	2	1	2	3	4	12	0	
	0830	"	999.7	975.8	-1.0	29.1	25.3	24.4	30.4	77	-1	5.6	-0.1	7.5	0	2	24	1	2	3	5	1	1	10	3	5	0	
	1130	"	999.7	975.9	"	31.7	26.6	24.5	30.9	66	"	6.1	"	8.4	0	3	24	2	1	5	7	2	1	4	5	4	0	
	1730	"	996.3	972.7	"	32.0	26.8	24.6	30.7	66	"	5.4	"	6.0	0	1	19	2	1	4	3	1	3	4	2	11	0	
	2330	"	999.0	974.9	"	28.5	26.2	25.3	32.3	83	"	4.1	"	3.6	0	0	17	2	1	2	4	1	3	4	0	14	0	
	0230	233	998.3	972.5	"																							

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mb.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in f.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	82 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Punjab (India) (Incl. Indrag Delhi) (Contd.) Hissar	0530	221	998.6	974.0	..	26.9	25.3	24.6	30.3	88	..	3.8	..	2.4	0	0	13	0	0	1	5	1	6	0	0	18	0
	0830	"	999.5	975.1	-0.8	28.8	25.9	24.5	31.3	78	+8	4.7	+1.7	5.9	0	0	27	0	1	3	2	8	5	8	0	4	0
	1130	"	999.5	975.4	..	33.1	27.4	25.3	31.6	64	..	5.0	..	2.7	0	0	18	0	0	2	4	2	4	5	1	13	0
	1730	"	996.5	972.3	..	32.3	27.1	24.8	31.2	68	..	4.8	..	4.8	0	0	23	1	3	5	3	5	3	2	1	8	0
	2330	"	998.8	974.3	..	28.6	26.1	25.2	31.3	82	..	2.5	..	3.1	0	0	16	0	0	1	7	4	3	1	0	15	0
Karnal	0830	249	998.8	971.1	..	26.7	25.6	25.1	31.9	91	..	5.1	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	1730	"	996.5	969.1	..	30.9	27.4	25.1	38.4	75	..	4.8	..	0.8	0	0	4	0	0	0	4	0	0	0	0	27	0
Patiala	0830	251	1000.3	972.6	..	27.5	25.7	24.9	31.1	86	..	5.6	..	3.1	0	0	12	1	0	0	10	0	0	0	1	19	0
	1730	"	996.6	969.2	..	30.9	27.0	25.3	31.5	72	..	5.7	..	3.7	0	0	16	0	0	1	4	0	0	0	11	15	0
Ambala	0830	272	999.9	969.6	-0.8	27.2	26.0	25.3	32.9	89	+10	2.8	-1.9	1.8	0	0	16	0	1	0	12	0	1	0	2	15	0
	1730	"	996.4	966.8	..	31.0	28.3	26.8	36.3	77	..	2.2	..	1.5	0	0	15	0	0	0	13	0	1	0	1	16	0
Ambala (P.B.O.)	0230	278	998.0	967.3	..	27.2	25.8	25.3	32.2	90	..	4.5	..	4.7	0	0	21	1	1	4	12	1	2	0	0	10	0
	0530	"	998.1	967.3	..	26.3	25.2	24.7	30.8	91	..	5.8	..	4.7	0	0	20	0	1	3	9	2	5	0	0	11	0
	1130	"	999.6	969.0	..	29.9	26.4	25.1	30.6	76	..	3.8	..	7.4	0	0	30	0	1	4	12	3	3	4	3	1	0
	2330	"	998.4	967.8	..	28.1	26.3	25.6	33.2	86	..	3.7	..	3.8	0	0	16	0	1	0	10	2	1	1	1	15	0
	0530	273	998.5	967.7	..	25.5	25.2	25.0	32.0	97	..	5.9	..	6.7	0	0	17	0	0	10	2	2	1	1	1	14	0
Ambala (Aero-drome)	0830	"	999.5	969.0	..	27.2	25.9	25.2	32.2	89	..	6.3	..	9.5	0	2	20	0	1	6	7	1	0	3	4	9	0
	1130	"	999.5	969.3	..	29.4	26.8	25.7	32.7	81	..	6.2	..	12.1	0	1	25	0	0	9	7	0	1	4	5	5	0
	1730	"	996.3	966.3	..	30.7	27.1	25.6	32.6	75	..	5.3	..	10.7	0	3	21	0	0	5	5	0	0	7	7	7	0
	2330	"	998.1	968.2	..	27.2	26.4	26.1	33.7	93	..	4.4	..	4.8	0	0	14	0	1	6	5	1	0	0	0	7	0
	0830	347	999.5	961.4	..	28.3	25.6	24.6	30.5	83	..	3.9	..	..	0	0	15	0	0	1	11	0	1	1	1	16	0
Chandigarh	1730	"	996.5	958.6	..	30.2	26.7	25.3	31.5	73	..	3.1	..	..	0	0	23	0	0	1	9	0	2	3	8	8	0
	0830	247	999.1	971.8	-1.2	28.3	26.0	25.0	32.0	83	+8	4.1	+0.4	2.0	0	0	20	1	4	2	10	0	2	0	1	11	0
Ludhiana	1730	"	996.2	969.2	..	31.6	27.3	25.7	32.5	72	..	3.8	..	1.8	0	0	18	0	3	3	5	0	5	0	2	13	0
	0830	246	999.7	973.0	..	28.5	26.0	24.9	31.7	82	..	4.8	..	..	0	2	26	3	0	3	13	4	3	1	1	3	0
Halwara (Aero-drome)	1730	"	997.6	971.1	..	31.6	26.8	24.8	31.8	67	..	5.0	..	..	0	0	22	3	2	3	6	0	1	2	5	9	0
	0830	"	..	..	..	29.4	26.5	25.2	31.9	79	..	2.6	..	8.0	0	0	30	0	1	2	11	8	8	0	0	0	0
Bhatinda	1730	"	..	..	..	32.9	27.4	25.5	31.9	66	..	3.2	..	9.5	0	2	29	3	6	4	4	2	7	0	5	0	0
	0830	200	997.9	975.6	..	28.8	26.6	25.7	33.2	84	..	2.5	..	1.6	0	0	16	0	7	0	1	1	5	2	0	15	0
Ferozepur	1730	"	994.9	973.1	..	33.7	28.9	27.4	36.6	71	..	3.2	..	1.6	0	0	16	1	7	1	0	0	3	0	4	15	0
	0830	234	997.9	971.7	..	26.8	26.1	25.8	35.4	95	..	5.2	..	7.5	0	1	25	0	3	6	8	5	3	0	1	5	0
Amritsar	0830	"	999.2	973.3	..	25.3	26.5	25.8	32.8	87	..	5.0	..	7.1	0	0	24	1	3	4	9	3	3	1	0	7	0
	1130	"	999.1	973.6	..	30.7	27.1	25.6	32.6	75	..	5.0	..	9.9	0	1	29	1	3	10	6	3	1	2	4	1	0
	1730	"	996.0	970.5	..	31.9	27.4	25.8	33.1	72	..	4.4	..	8.7	0	2	24	1	3	7	4	3	2	3	3	5	0
	0830	344	999.8	961.8	..	26.8	25.4	24.6	31.1	89	..	6.7	..	0.9	0	0	9	0	0	2	2	3	1	1	0	22	0
	1730	"	997.7	960.3	..	30.6	27.5	25.5	34.6	74	..	5.0	..	2.6	0	0	20	1	4	1	0	6	0	5	3	11	0
Pathankot (Aero-drome)	0830	312	999.6	965.2	..	27.2	25.3	24.5	30.6	86	..	6.5	..	3.9	0	0	29	1	5	13	6	0	2	1	1	2	0
	1130	"	999.7	965.5	..	28.7	25.8	24.5	31.6	79	..	6.1	..	4.8	0	0	31	0	5	4	9	2	6	3	2	0	0
Adampur (Aero-drome)	1730	"	996.4	962.5	..	30.8	26.7	24.7	32.6	65	..	4.7	..	4.8	0	0	31	1	5	2	2	5	6	4	6	0	0
	0530	233	997.4	970.8	..	26.3	26.0	25.8	33.1	97	..	3.8	..	..	0	0	16	0	1	3	10	0	1	1	0	15	0
	0830	"	998.4	971.9	..	28.0	26.4	25.8	32.5	89	..	5.7	..	..	0	2	22	1	2	5	11	2	1	1	1	7	0
	1130	"	998.5	972.3	..	30.6	27.3	26.0	33.4	77	..	6.2	..	..	0	1	26	0	1	4	16	0	4	0	2	4	0
	1730	"	996.0	969.9	..	31.4	27.6	26.1	33.5	75	..	5.2	..	..	0	1	20	2	1	4	5	0	3	1	5	10	0
2330	"	997.4	971.0	..	28.1	27.1	26.4	35.3	92	..	4.0	..	..	0	0	17	1	1	2	7	1	2	0	3	14	0	
Himachal Pradesh Bilaspur	0830	493	1000.1	945.9	..	25.8	24.5	24.0	29.5	89	..	6.5	..	1.5	0	0	12	2	2	1	2	2	1	0	2	19	0
	1730	"	996.6	943.3	..	30.0	25.9	24.4	30.2	71	..	5.1	..	2.9	0	0	28	2	2	1	3	4	6	4	6	3	0
Mandi	0830	761	999.1	916.9	..	24.7	23.2	22.6	27.5	89	..	6.3	..	0.2	0	0	2	0	1	0	0	0	0	0	1	29	0
	1730	"	995.7	914.4	..	27.6	24.6	23.5	28.2	79	..	6.2	..	1.4	0	0	13	0	1	0	3	0	1	4	4	18	0
Jammu and Kashmir	0530	1567	1415.5	835.5	..	20.0	18.7	17.9	20.5	88	..	5.4	..	1.0	0	0	10	0	0	0	4	0	0	6	0	21	0
	0830	"	1424.6	834.5	-0.7	22.3	19.6	18.5	20.8	79	-4	4.4	+0.6	1.5	0	0	14	1	0	0	7	0	2	2	2	17	0
Srinagar	1130	"	1418.8																								

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, in km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of the nearest standard isoboric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Jammu and Kashmir—(Co II)																												
	Gulmerg	0830	2655	3086.3	736.6	-0.4	17.0	14.7	13.3	15.3	80	-1	4.4	+0.2	1.2	0	0	11	0	8	2	1	0	0	0	0	20	0
Leh	1730	"	3072.7	735.2	..	18.5	16.2	14.9	16.9	80	..	4.6	..	2.0	0	0	19	0	8	4	0	1	4	1	1	12	0	
	0530	3514	3060.0	663.2	..	10.8	5.0	-0.6	5.3	44	..	3.0	..	4.7	0	0	23	10	12	1	0	0	0	0	0	0	8	0
	0830	"	3064.9	664.4	-0.7	16.1	8.6	1.6	7.0	39	-20	3.3	-0.5	1.1	0	0	6	0	0	0	1	1	4	0	0	25	0	
	1730	"	3008.7	660.9	..	20.5	12.5	5.4	8.9	34	..	3.6	..	5.7	0	0	22	0	2	0	0	1	5	11	3	9	0	
Skardu (R)	0830	2288																										
	1730	"																										
Gilgit (R)	0830	1491																										
	1730	"																										
Misgar (R)	0830	3106																										
	1730	"																										
Jammu*	0830	..																										
Jammu(Aerodrome)	0530	292	998.3	965.7	..	26.3	24.8	24.2	30.0	88	..	5.8	..	..	0	0	20	0	11	4	2	1	0	0	2	11	0
	0830	"	999.4	966.9	..	27.2	25.3	24.4	30.6	85	..	6.2	..	..	0	0	23	1	7	3	7	4	0	0	1	8	0
	1130	"	999.3	967.1	..	29.6	26.3	24.8	31.1	76	..	5.3	..	..	0	1	23	2	4	3	6	5	0	2	2	7	0
	1730	"	996.4	964.4	..	31.2	26.7	24.8	31.8	70	..	4.9	..	..	0	0	23	0	3	1	4	3	5	4	3	8	0
Rajasthan (West) Sri Ganganagar	0530	177	997.2	977.6	..	28.2	25.4	24.1	30.5	79	..	2.5	..	5.0	0	0	26	0	1	6	5	4	10	0	0	5	0	
	0830	"	998.3	978.8	..	29.8	26.0	24.4	30.1	73	+10	1.8	+0.1	4.9	0	0	31	0	1	5	3	4	15	1	0	0	0	
	1130	"	998.3	979.1	..	34.3	27.2	24.1	30.2	56	..	2.7	..	6.8	0	0	28	1	1	3	5	1	10	6	1	3	0	
	1730	"	995.0	975.9	..	35.5	27.5	23.3	30.1	54	..	4.0	..	2.8	0	0	22	1	5	2	2	2	5	4	1	9	0	
	2330	"	997.5	978.0	..	30.5	26.3	24.4	30.4	71	..	2.5	..	4.7	0	0	22	0	0	2	10	2	8	0	0	9	0	
Churu	0830	291	1000.0	967.8	..	28.2	25.9	24.9	32.0	82	..	4.0	..	14.3	0	8	19	1	2	3	1	0	6	13	0	4	1	
	1730	"	996.4	964.9	..	33.5	27.0	24.3	30.3	61	..	5.3	..	12.7	0	3	27	4	3	4	1	2	5	9	1	1	1	
Bikaner	0830	224	999.6	974.7	-0.8	28.2	25.9	24.8	32.0	82	+10	1.9	-1.1	7.0	0	1	28	0	2	2	1	1	14	7	2	2	0	
	1730	"	996.0	971.1	..	33.7	27.5	25.3	32.8	62	..	2.2	..	8.2	0	2	26	1	4	0	4	3	11	4	1	3	0	
Bikaner (P.B.O.)	0530	224	998.4	973.5	..	26.9	25.6	25.1	32.2	90	..	3.4	..	7.4	0	0	26	0	0	2	1	6	13	3	1	5	0	
	1130	"	999.4	974.9	..	32.8	27.7	25.6	33.2	66	..	3.6	..	7.6	0	0	26	0	1	1	2	11	7	2	1	5	1	
	2330	"	998.6	973.9	..	29.2	26.8	25.8	33.5	82	..	3.1	..	9.1	0	0	28	0	0	1	0	17	7	3	0	3	0	
Jaisalmer	0830	242	998.8	972.2	..	27.4	25.5	24.8	30.6	86	..	4.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	995.6	969.4	..	33.8	28.2	26.2	34.9	64	..	3.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phalodi	0830	234	1000.4	974.4	..	27.4	25.3	24.3	31.0	84	..	4.9	..	16.6	0	8	22	2	0	1	1	4	17	5	0	1	0	
	1730	"	997.4	972.1	..	33.0	27.0	25.3	30.5	62	..	4.9	..	18.6	0	13	18	0	1	1	2	10	15	2	0	0	0	
Nagaur	0830	298	1000.1	967.2	..	27.4	24.9	23.8	29.1	80	..	4.7	..	11.7	0	3	28	1	3	1	1	5	15	4	1	0	0	
	1730	"	996.7	964.1	..	31.3	25.8	23.1	28.2	62	..	5.2	..	13.2	0	4	27	0	2	4	3	10	12	0	0	0	0	
Jodhpur	0230	224	999.4	974.3	..	26.2	24.7	24.0	30.0	88	..	4.4	..	9.3	0	1	26	0	0	0	0	3	17	6	1	4	0	
	0530	"	999.5	974.4	..	27.5	24.4	23.9	29.0	90	..	6.0	..	7.4	0	2	23	0	0	0	0	3	18	4	0	6	0	
	0830	"	1000.8	975.8	+0.6	26.5	24.8	24.1	30.5	87	+8	6.9	+0.9	9.3	0	1	27	1	0	2	0	2	19	4	0	3	0	
	1130	"	1000.9	976.6	..	29.0	25.5	24.0	29.3	75	..	7.1	..	13.1	0	5	25	1	2	2	0	2	16	7	0	1	0	
	1730	"	997.9	973.2	..	30.3	25.4	23.3	28.1	67	..	6.3	..	12.7	0	2	27	2	1	1	1	3	15	4	2	2	0	
Barmer	2330	"	1000.2	975.2	..	27.3	25.1	24.4	29.7	83	..	4.6	..	9.1	0	2	26	0	0	1	0	5	20	2	0	3	0	
	0530	194	999.0	977.3	..	26.1	24.5	23.6	29.3	86	..	5.7	..	..	0	0	22	0	0	0	1	10	9	2	0	9	0
	0830	"	1000.3	978.6	-0.8	26.9	24.8	23.9	29.3	83	+4	6.3	+0.9	..	0	0	23	0	0	0	1	4	16	0	2	8	0	
	1130	"	1000.2	978.7	..	30.1	25.3	23.2	28.3	67	..	6.4	..	..	0	0	24	0	1	0	2	2	18	1	0	7	0
	1730	"	997.4	976.3	..	31.5	25.9	23.4	29.3	63	..	6.4	..	..	0	0	30	2	1	0	0	11	15	0	1	1	0
Rajasthan (East) Pilani	0830	"	..	..	..	28.6	25.4	23.6	29.0	75	..	2.3	..	13.9	0	7	24	1	3	3	5	0	4	13	2	0	0
	1730	"	..	..	..	32.2	26.4	24.5	29.6	63	..	3.4	..	10.8	0	1	29	5	5	4	1	2	5	7	0	1	1
	0830	271	998.6	968.6	..	28.1	25.8	24.7	30.9	83	..	5.2	..	2.6	0	0	16	4	4	1	2	1	1	1	2	15	0	
	1730	"	996.6	967.0	..	31.0	27.3	25.8	33.8	74	..	5.3	..	1.9	0	0	17	1	2	6	0	1	3	3	1	14	0	
	0830	433	1000.1	952.6	..	27.0	25.1	24.2	30.3	84	..	5.5	..	2.6	0	0	24	0	0	10	2	2	1	9	0	7	0	
Sikar	1730	"	996.2	949.6	..	30.8	26.7	24.6	31.0	73	..	2.4	..	2.2	0	0	20	0	2	2	1	1	3	9	2	11	0	
	0230	390	998.7	955.5	..																							

Division and station	Hour of observation I.S.T.	Height of barometer, cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Rajasthan (East)—(Contd.)																												
Dholpur	0830	176	999.2	979.7	..	28.0	25.7	24.7	30.1	83	..	6.1	..	4.6	0	0	25	0	4	5	1	0	4	9	2	6	0	
	1730	"	996.3	976.9	..	30.6	26.4	24.7	31.0	72	..	6.1	..	3.8	0	0	20	4	3	3	1	1	3	4	1	11	0	
Tonk	0830	272	999.1	968.9	..	26.5	25.4	24.8	31.9	89	..	5.3	..	11.5	0	1	30	1	5	2	1	0	6	10	6	0	0	
	1730	"	996.1	966.3	..	29.7	26.6	24.8	33.1	79	..	5.9	..	12.7	0	2	28	1	5	2	1	0	6	10	5	1	0	
Ajmer	0830	486	1000.5	946.9	-1.6	25.2	23.6	22.9	27.3	87	+10	6.7	+1.7	11.5	0	0	29	0	3	1	0	0	11	12	2	2	0	
	1730	"	997.4	944.7	..	28.6	24.8	22.8	28.0	73	..	6.8	..	9.1	0	0	28	2	2	2	1	0	9	10	0	20	0	
Kotah	0530	257	999.5	970.9	..	25.8	24.5	23.8	29.0	89	..	6.4	..	2.4	0	0	11	0	0	0	0	0	1	10	0	3	9	0
	0830	"	1000.6	972.1	..	27.2	25.1	24.2	29.9	84	+9	6.9	+1.7	3.6	0	0	22	0	0	0	0	0	0	0	19	3	9	0
	1130	"	1000.5	972.2	-1.1	29.4	25.9	24.3	30.3	75	..	7.1	..	2.6	0	0	17	1	0	1	1	1	2	8	3	14	0	
	1730	"	998.0	969.6	..	29.0	25.9	24.4	30.8	77	..	7.3	..	4.2	0	0	18	0	0	0	0	0	2	13	3	13	0	
	2330	"	1000.2	971.6	..	27.1	25.2	24.0	30.6	84	..	6.5	..	2.3	0	0	14	0	0	0	0	10	4	0	17	0	0	
Chambal	0830	351	1000.8	961.9	..	26.0	24.4	23.7	29.3	87	..	6.2	..	5.6	0	0	27	0	0	0	0	1	9	9	8	4	0	
	1730	"	998.1	959.5	..	27.3	25.1	23.9	29.4	80	..	6.5	..	5.9	0	0	29	3	2	1	0	8	13	2	2	0	0	
Jhelawar	0830	321	1000.6	965.0	-1.3	25.6	24.1	23.4	29.0	88	+4	5.7	-0.5	3.8	0	0	28	1	1	0	0	0	10	13	3	3	0	
	1730	"	997.9	962.5	..	28.0	25.2	23.8	29.4	79	..	5.4	..	4.0	0	0	29	4	1	1	1	1	5	14	2	2	0	
Udaipur	0230	582	1000.1	936.1	..	23.7	22.6	22.1	26.3	87	..	6.1	..	2.7	0	1	8	0	0	0	0	1	6	2	0	22	0	
	0530	"	1000.1	936.0	..	23.0	22.3	21.8	26.4	90	..	7.3	..	2.1	0	0	11	0	0	0	0	0	2	6	3	20	0	
	0830	"	1001.2	937.4	-1.2	24.9	22.9	22.0	26.3	84	+6	7.1	+1.3	3.1	0	0	22	2	0	1	0	3	6	8	2	9	0	
	1130	"	1001.1	937.7	..	27.2	24.0	22.7	26.9	77	..	7.1	..	4.7	0	0	24	2	2	0	0	0	13	5	2	7	0	
	1730	"	998.8	935.5	..	26.5	23.9	22.8	27.8	80	..	7.5	..	4.0	0	0	25	1	1	0	0	2	12	6	3	6	0	
	2330	"	1001.3	937.4	..	24.2	23.0	22.4	27.1	90	..	7.0	..	2.7	0	0	13	0	0	0	0	0	8	4	1	18	0	
Erinpura (Jawai Dam)	0830	295	1001.1	968.4	..	25.4	23.6	22.5	28.3	85	..	7.7	..	4.8	0	0	24	1	1	0	6	3	8	4	1	7	0	
	1730	"	998.5	966.1	..	28.4	25.1	23.4	29.0	77	..	7.8	..	5.9	0	2	22	0	3	0	4	2	12	2	1	7	0	
Madhya Pradesh (West) Gwalior (P.B.O.)	0230	207	998.2	975.2	..	26.4	25.2	24.6	31.0	90	..	5.3	..	6.3	0	3	19	2	1	2	1	0	8	6	2	9	0	
	0530	"	998.3	975.2	..	26.0	24.9	24.3	30.6	91	..	5.9	..	6.0	0	1	22	1	4	0	1	0	7	8	2	8	0	
	0830	"	999.5	976.6	-1.1	27.7	25.6	24.7	31.0	83	+1	6.6	+0.5	10.7	0	4	25	1	3	6	2	2	3	9	3	2	0	
	1130	"	999.6	976.7	..	29.7	26.3	24.9	31.5	76	..	6.5	..	10.9	0	4	27	2	5	4	3	1	3	8	5	0	0	
	1730	"	996.7	973.9	..	29.9	26.2	24.7	31.0	74	..	6.0	..	8.8	0	2	29	3	2	4	4	0	4	10	4	0	0	
	2330	"	999.2	976.2	..	26.7	25.4	24.9	31.5	90	..	5.2	..	4.8	0	3	18	1	1	0	0	3	12	4	0	10	0	
Sheopur Kalan	0830	235	1000.2	974.1	..	27.0	25.4	24.5	31.1	87	..	6.7	..	9.3	0	1	30	4	6	1	1	2	3	11	2	0	0	
	1730	"	996.5	970.7	..	29.3	26.1	24.8	31.3	78	..	7.1	..	8.3	0	1	29	1	5	5	1	2	3	4	5	1	4	
Guna	0530	478	999.3	946.3	..	23.7	22.9	22.7	27.3	94	..	7.0	..	6.6	0	0	24	1	2	0	0	0	8	11	2	7	0	
	0830	"	1000.3	947.6	-1.6	24.9	23.7	23.2	28.6	90	+4	7.4	+1.4	5.3	0	0	28	3	2	1	0	1	3	18	0	3	0	
	1130	"	1000.6	948.0	..	27.2	24.5	23.3	28.6	80	..	7.1	..	6.3	0	0	29	1	5	2	0	0	2	11	8	2	0	
	1730	"	997.3	945.2	..	27.2	24.5	23.4	29.5	80	..	7.0	..	8.2	0	1	28	5	2	2	1	1	3	12	3	2	0	
	2330	"	1000.3	947.5	..	24.4	23.4	23.0	28.0	93	..	6.2	..	4.6	0	0	23	1	0	0	0	0	0	21	1	8	0	
Rajgarh	0830	382	1000.7	958.3	..	24.9	23.7	23.1	28.2	90	..	6.5	..	6.9	0	0	23	1	0	0	0	0	0	1	19	2	5	0
	1730	"	998.1	956.2	..	27.1	24.5	23.4	28.7	81	..	7.1	..	9.1	0	0	26	4	0	0	0	0	1	19	2	5	0	
Neemuch	0830	496	1001.9	947.1	-1.0	24.5	23.1	22.5	27.2	89	+4	7.1	+1.1	11.3	0	2	29	1	6	0	0	0	5	18	1	0	0	
	1730	"	999.2	944.9	..	26.2	23.7	22.5	27.4	81	..	7.7	..	12.0	0	0	30	3	1	0	0	1	8	17	0	1	0	
Ratlam	0830	486	1002.0	948.1	..	23.2	22.8	22.5	27.4	96	..	8.0	..	7.2	0	0	30	0	0	0	0	0	9	18	3	0	0	
	1730	"	999.6	946.1	..	25.7	23.9	22.9	28.3	85	..	7.7	..	13.2	0	3	28	0	1	0	0	0	4	26	0	1	0	
Alirajpur	0830	293	1003.0	970.2	..	24.4	23.4	23.0	28.1	92	..	7.8	..	13.5	0	2	28	0	0	0	0	1	6	24	0	0	0	
	1730	"	1000.3	967.9	..	26.3	24.2	23.2	28.4	83	..	7.3	..	12.6	0	2	29	0	0	0	0	0	1	6	24	0	0	
Indore	0530	567	1000.8	938.1	..	22.4	21.8	21.6	25.6	95	..	7.5	..	21.7	0	16	15	1	0	0	0	0	12	15	3	0	0	
	0830	"	1002.1	939.4	-1.8	23.1	22.3	21.9	26.3	93	+6	7.6	+0.4	23.3	0	15	16	2	0	0	0	0	10	13	5	0	0	
	1130	"	1002.0	939.8	..	25.0	22.9	22.0	26.4	84	..	7.4	..	25.7	0	18	13	2	1	0	0	0	12	15	3	0	0	
	1730	"	999.4	937.3	..	25.0	22.9	22.1	26.3	84	..	7.4	..	22.2	0	16	15	0	0	1	0	0	12	15	3	0	0	
	2330	"	1001.9	939.3	..	22.9	22.2	21.8	26.4	94	..	6.6	..	19.3	0	12	19	1	0	0	0	0	2	19	4	3	0	
Bhopal (Bairagarh)	0230	523	1000.1	942.3																								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—AUGUST, 1959 (SRAVANA 10—BHADRA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer observed above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)			Wind speed (km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed km. per hour	Wind direction			N	NE	E	SE	S	SW	W	NW	Calm	Variable		
															62 or more	20 to 61	1 to 19											19	20	21	22	23	24	25	26	27	28
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Madhya Pradesh (West) (Contd.)	Khandwa (contd.)	1730	318	999.5	964.4	..	27.2	24.4	23.1	28.4	79	..	7.6	..	7.6	0	0	31	0	0	0	0	0	14	13	4	0	0	
	Hoshangabad	0830	302	1001.5	967.7	-2.0	24.5	23.7	23.3	28.4	93	+5	7.8	+0.8	5.5	0	0	26	0	0	0	0	0	17	9	0	5	0	
Betul		1730	..	998.7	963.3	..	26.8	24.9	24.0	29.9	85	..	7.6	..	5.6	0	0	26	2	0	0	0	0	13	11	0	5	0	
		0830	653	1002.1	930.2	..	22.5	21.8	21.5	25.4	94	..	8.0	..	8.3	0	0	29	0	0	0	0	0	0	24	5	2	0	
Chhindwara		1730	..	999.1	927.9	..	24.4	22.6	21.7	25.9	86	..	7.8	..	11.6	0	0	31	0	0	0	0	0	1	21	9	0	0	
		0830	685	1001.1	926.2	..	23.6	22.2	21.7	25.8	89	..	7.7	..	10.7	0	1	29	4	1	1	1	1	2	8	12	1	0	
Seoni		1730	..	998.2	923.8	..	24.7	22.6	21.5	25.8	83	..	7.6	..	10.3	0	2	29	2	2	0	2	3	2	12	8	0	0	
		0830	619	1000.7	932.9	-1.7	23.9	22.5	22.0	26.3	89	+5	7.6	+1.4	5.0	0	0	28	1	1	2	0	0	11	10	3	3	0	
Sagar		1730	..	997.9	930.6	..	25.3	22.9	21.8	26.2	83	..	7.4	..	4.2	0	0	24	0	0	0	1	0	4	11	8	7	0	
		0830	551	1000.2	939.5	-1.8	24.1	23.2	23.0	27.9	93	+5	7.2	+0.6	11.3	0	2	29	0	5	4	0	0	2	14	6	0	0	
Nowgong		1730	..	997.4	937.2	..	25.7	24.0	23.4	28.6	87	..	7.1	..	6.1	0	3	24	0	2	3	2	0	3	14	3	4	0	
		0830	229	1000.1	974.6	-1.3	26.9	25.2	24.5	30.6	87	+4	6.5	+0.2	5.8	0	0	29	3	6	4	0	0	12	9	1	2	0	
Madhya Pradesh (East) Sutra		1730	..	996.9	971.8	..	29.4	26.0	24.5	30.8	76	..	6.5	..	5.3	0	0	28	1	9	1	1	0	12	1	3	3	0	
		0530	317	997.9	962.7	..	25.1	24.4	24.2	30.2	95	..	7.4	..	2.5	0	0	14	1	1	3	0	0	3	6	0	17	0	
Sidhi		0830	..	999.4	964.2	-1.6	26.2	24.8	24.3	30.0	90	+6	7.1	+0.7	3.1	0	0	21	1	3	4	0	0	7	6	0	10	0	
		1130	..	999.3	964.3	..	28.0	25.5	24.3	30.6	81	..	7.4	..	4.8	0	0	27	1	2	8	0	0	3	10	3	4	0	
		1730	..	996.5	961.7	..	28.3	25.5	24.2	30.3	80	..	7.1	..	3.7	0	0	24	0	2	9	0	1	8	4	0	7	0	
		2330	..	999.0	963.3	..	26.0	24.9	24.4	30.6	91	..	7.0	..	2.8	0	0	17	0	0	7	0	1	5	4	0	14	0	
		0830	..	..	..	..	26.8	24.7	23.6	29.5	83	..	6.3	..	3.8	0	0	26	0	2	4	4	2	7	5	2	5	0
		1730	..	..	..	..	28.6	25.3	24.2	29.5	78	..	5.2	..	3.8	0	0	29	1	0	10	1	1	4	10	2	2	0
Umari		0830	459	999.5	949.0	..	25.3	23.8	23.1	28.5	88	+5	6.7	-0.3	7.9	0	1	26	0	1	6	0	1	5	11	3	4	0	
		1730	..	996.6	946.6	..	27.1	24.6	23.6	29.1	82	..	6.9	..	6.0	0	0	23	0	3	1	0	0	0	3	16	8	0	
Jabalpur		0530	393	999.1	955.5	..	24.1	23.5	23.2	28.5	94	..	7.3	..	8.9	0	0	28	0	2	1	2	0	13	9	1	5	0	
		0830	..	1000.3	956.8	-1.6	25.4	24.0	23.4	28.7	89	+5	7.1	+0.3	8.6	0	0	29	0	3	1	2	0	11	10	1	2	1	
		1130	..	1000.0	956.8	..	27.1	24.8	23.8	29.3	83	..	6.9	..	9.2	0	0	29	2	3	1	1	0	10	10	2	2	0	
		1730	..	997.4	954.3	..	26.8	24.7	23.8	29.4	84	..	6.9	..	7.6	0	0	29	1	3	2	1	0	8	13	1	2	0	
Mandla		2930	..	1000.2	956.7	..	25.0	24.3	23.6	29.2	92	..	7.4	..	7.7	0	0	24	0	0	0	1	3	11	9	0	7	0	
		0830	443	1000.3	951.4	..	24.9	23.6	23.0	28.1	89	..	7.1	..	1.8	0	0	11	3	0	0	0	0	1	4	3	20	0	
		1730	..	997.5	949.0	..	26.7	24.4	23.4	28.9	83	..	6.5	..	2.5	0	0	15	3	0	0	1	1	2	2	6	16	0	
		0530	625	998.6	930.2	..	23.0	22.2	21.8	26.2	93	..	7.6	..	3.9	0	0	25	7	1	3	0	6	1	5	2	6	0	
Pendra		0830	..	999.8	931.6	-1.9	24.4	22.7	22.3	26.8	88	+3	7.5	+1.9	5.4	0	2	23	5	2	1	3	5	1	3	5	6	0	
		1130	..	999.4	932.2	..	26.2	23.7	22.7	27.4	81	..	7.7	..	7.7	0	2	27	4	4	2	4	3	2	6	4	2	0	
		1730	..	996.9	929.2	..	25.9	23.6	22.6	27.5	82	..	7.4	..	5.9	0	0	30	3	3	2	2	3	4	5	8	1	0	
		2330	..	999.7	931.3	..	23.9	22.9	22.4	27.1	92	..	7.6	..	5.2	0	2	20	3	0	0	1	4	5	5	4	9	0	
Ambikapur		0830	611	999.7	933.1	..	24.9	23.2	22.5	27.3	87	..	6.5	..	6.7	0	0	27	1	2	4	2	1	7	7	3	4	0	
		1730	..	996.7	930.6	..	26.5	24.0	22.9	28.0	82	..	5.6	..	8.9	0	0	30	3	3	2	2	2	5	9	4	1	0	
Champa		0830	245	1000.4	973.0	..	26.0	24.3	23.5	29.0	87	..	7.2	..	5.6	0	0	30	0	3	5	1	0	4	16	1	1	0	
		1730	..	997.2	970.2	..	28.0	25.3	24.1	30.0	80	..	7.5	..	8.0	2	2	26	1	4	0	0	3	5	11	4	3	0	
Raigarh		0830	220	1000.2	975.7	..	25.5	24.9	24.2	31.2	87	..	7.6	..	4.7	0	0	26	1	4	0	1	2	13	5	0	5	0	
		1730	..	996.8	972.5	..	28.4	25.8	24.5	30.9	79	..	7.3	..	5.5	0	0	31	0	3	1	7	1	14	3	2	0	0	
Raipur		0530	298	999.4	966.1	..	24.4	23.6	23.3	28.4	93	..	7.7	..	7.2	0	1	27	2	1	2	0	1	14	6	2	3	0	
		0830	..	1000.7	967.5	-1.7	25.7	24.2	23.4	28.9	87	+1	7.2	+0.9	7.7	0	0	30	0	3	3	0	2	10	12	0	1	0	
		1130	..	1000.3	967.3	..	27.4	24.8	23.6	29.1	80	..	7.4	..	8.4	0	0	30	1	2	2	1	1	8	13	2	1	0	
		1730	..	997.8	964.9	..	27.6	24.8	23.6	29.0	80	..	7.3	..	8.2	0	2	27	1	3	1	0	2	9	11	2	2	0	
Kanker		2830	..	1000.4	967.2	..	25.3	24.3	23.8	29.5	91	..	7.8	..	6.9	0	0	26	0	1	1	0	2	17	4	1	5	0	
		0830	402	1001.2	956.8	-1.8	25.3	23.7	22.6	27.9	87	+5	7.2	-0.4	2.1	0	0	10	0	0	0	0	0	0	5	4	1	21	0
		1730	..	998.7	954.4	..	26.2	24.3	23.4	28.9	85	..	7.5	..	2.9	0	0	20	0	0	0	0	0	12	2	6	11	0	
		0530	553	1000.8	939.8	..	22.5	21.8	21.4	25.6	93	..	7.9	..	4.5	0	0	23	0	0	0	1	4	13	4	1	8	0	
Jagdalpur (P.O.)		0830	..	1001.8	941.1	-1.6</																							

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mb.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed in Km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal.		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
Gujarat—(Contd.)																												
Ahmedabad	0230	55	1001.3	995.0	..	25.6	24.4	23.9	29.7	90	..	7.3	..	10.7	0	1	29	0	0	0	0	0	0	14	14	2	1	0
	0530	"	1001.2	994.9	..	25.3	24.3	23.9	29.5	92	..	7.4	..	10.4	0	0	31	0	0	0	0	0	0	13	16	2	0	0
	0830	"	1002.5	996.2	-1.4	25.9	24.7	24.1	30.3	90	+8	7.7	+1.5	12.0	0	2	29	0	0	0	0	0	0	16	11	4	0	0
	1130	"	1002.7	996.5	..	27.8	25.2	24.0	30.0	79	..	7.4	..	15.0	0	5	26	0	0	0	0	1	10	13	7	0	0	
	1730	"	999.9	993.6	..	28.8	25.6	24.3	30.3	77	..	7.4	..	13.1	0	2	28	0	0	0	1	3	7	13	6	1	0	
	2330	"	1002.1	995.8	..	26.4	24.8	24.1	29.9	87	..	7.2	..	10.9	0	1	30	0	0	0	0	2	10	18	1	0	0	
Dohad	0830	333	1002.3	965.1	..	24.4	23.4	22.9	28.0	92	+3	7.5	+0.2	23.0	0	18	13	0	0	0	0	0	0	21	9	1	0	0
	1730	"	1000.0	963.2	..	26.3	24.2	23.2	28.3	84	..	7.5	..	19.4 ^(c)	0	12	19	0	0	0	0	0	0	21	9	1	0	0
Baroda	0530	34	1002.0	998.0	..	25.4	24.7	24.4	30.5	94	..	6.7	..	1.9 ^(c)	0	0	16	0	0	0	0	0	0	11	5	0	15	0
	0830	"	1003.2	999.2	..	26.4	25.2	24.7	31.1	91	+9	7.1	+0.5	3.0 ^(d)	0	0	24	0	0	0	0	0	0	15	9	0	7	0
	1130	"	1003.5	999.5	..	28.2	25.6	24.5	30.7	81	..	7.6	..	5.2 ^(b)	0	0	28	0	0	0	0	0	0	14	12	2	3	0
	1730	"	1000.6	996.7	..	29.0	26.0	24.7	31.2	78	..	7.5	..	5.3 ^(b)	0	0	28	0	0	0	0	2	18	6	2	3	0	
	2330	"	1002.9	998.9	..	26.2	25.2	24.7	31.2	92	..	7.0	..	3.5 ^(b)	0	0	24	0	0	0	0	0	0	21	3	0	7	0
Baroda (Aerodrome)	0830	38	1003.1	998.8	..	26.4	25.1	24.6	30.7	90	..	7.0	..	2	0	0	31	0	0	0	0	1	20	9	1	0	0	
	1130	"	1003.2	998.9	..	28.0	25.4	24.3	30.3	81	..	7.5	..	9.6	0	1	30	0	0	0	0	0	12	17	2	0	0	
	1730	"	1000.3	996.1	..	28.6	25.8	24.6	30.9	79	..	7.2	..	10.8	0	2	28	0	0	0	0	3	16	9	2	1	0	
Broach	0830	17	1002.9	1000.9	..	26.2	24.9	24.3	30.5	90	..	7.3	..	7.7	0	0	31	0	0	0	0	0	26	0	5	0	0	
	1730	"	1000.8	998.8	..	28.3	25.4	24.2	30.2	79	..	7.3	..	11.3	0	0	31	1	0	0	0	4	18	5	3	0	0	
Surat	0530	12	1002.3	1001.0	..	25.8	24.8	24.4	30.4	92	..	7.3	..	7.4	0	0	31	0	0	0	0	0	24	7	0	0	0	
	0830	"	1003.6	1002.3	-1.1	26.4	25.3	24.7	31.3	90	+8	7.4	+0.5	5.0	0	0	27	0	0	0	1	21	5	0	4	0		
	1130	"	1004.1	1002.8	..	28.2	25.6	24.5	30.6	81	..	7.5	..	9.1	0	0	31	0	0	0	0	0	20	8	3	0	0	
	1730	"	1001.6	1000.3	..	28.3	25.7	24.5	30.8	80	..	6.9	..	10.3	0	2	29	0	0	0	3	25	3	0	0	0		
	2330	"	1003.5	1002.2	..	26.2	25.1	24.6	31.0	91	..	7.0	..	9.5	0	0	31	0	0	0	0	2	25	2	2	0	0	
Saurashtra and Kutch Naliya	0830	21	1001.4	999.0	..	26.7	25.0	24.2	30.2	87	..	7.6	..	19.8	0	14	16	0	0	0	0	0	18	12	0	1	0	
	1730	"	999.3	997.9	..	28.1	25.2	23.9	29.9	79	..	7.6	..	26.0	0	23	8	0	0	0	4	14	13	0	0	0		
Bhuj (Aerodrome)	0230	80	1000.5	991.5	..	25.6	24.4	23.8	29.7	90	..	6.1	..	15.3	0	2	29	0	0	0	0	0	21	10	0	0	0	
	0530	"	1000.2	991.1	..	25.3	24.1	23.6	28.9	91	..	6.5	..	14.5	0	4	24	0	0	0	0	0	20	8	0	3	0	
	0830	"	1001.5	992.5	-0.9	26.1	24.6	23.9	29.6	88	+11	7.0	+1.0	13.3	0	5	23	0	0	0	0	0	16	12	0	3	0	
	1130	"	1001.9	992.8	..	28.4	25.3	23.9	29.8	77	..	7.0	..	19.7	0	13	18	1	0	0	0	0	12	15	3	0	0	
	1730	"	999.5	990.4	..	28.2	25.0	23.8	29.0	77	..	6.9	..	22.3	0	17	13	1	0	0	0	0	17	11	1	1	0	
	2330	"	1001.6	992.6	..	26.2	24.6	23.9	29.5	88	..	5.5	..	14.9	0	2	28	0	0	0	0	0	21	9	0	1	0	
Kandla	0830	14	1002.7	1001.1	..	26.8	24.8	24.0	29.8	85	..	7.3	..	20.2	0	11	20	0	0	0	0	0	16	14	1	0	0	
	1730	"	1000.6	999.0	..	29.4	25.5	23.8	31.0	72	..	6.4	..	32.2	0	27	4	0	0	0	0	0	20	10	1	0	0	
Mandvi	0830	9	1001.8	1000.8	..	27.3	25.5	24.5	31.2	86	..	7.6	..	32.0	1	25	3	0	0	0	0	0	11	16	0	2	2	
	1730	"	999.9	998.9	..	28.2	25.9	25.3	31.6	83	..	7.2	..	44.2	0	30	1	0	0	0	0	0	22	7	2	0	0	
Dwarka	0830	11	1002.3	1001.0	-1.2	27.1	25.5	24.7	31.4	87	+1	7.5	+0.7	26.8	0	26	5	0	0	0	0	0	12	19	0	0	0	
	1730	"	1000.8	999.5	..	28.0	25.9	24.9	31.7	84	..	7.0	..	26.4	0	22	9	0	0	0	0	0	11	20	0	0	0	
Porbandar	0830	7	1002.9	1002.1	..	26.8	25.7	25.1	32.1	90	..	8.0	..	17.8	0	3	28	0	0	0	0	0	8	16	7	0	0	
	1730	"	1001.3	1000.5	..	28.3	26.2	25.4	32.3	84	..	7.7	..	20.6	0	10	21	0	0	0	0	0	14	16	1	0	0	
Porbandar (Aerodrome)	0830	7	1002.8	1002.0	..	27.3	25.0	24.1	29.8	83	..	7.5	..	19.6	0	10	21	0	0	0	0	0	15	15	1	0	0	
	1130	"	1003.5	1002.7	..	29.0	25.8	24.8	30.8	78	..	7.2	..	24.3	0	21	10	0	0	0	0	0	14	15	2	0	0	
	1730	"	1001.4	1000.6	..	28.5	25.3	24.1	29.7	78	..	6.8	..	23.2	0	21	10	0	0	0	0	0	14	17	0	0	0	
Jamnagar	0530	23	1001.0	998.4	..	25.3	24.3	24.0	29.7	92	..	6.7	..	21.3	0	16	15	0	0	0	0	0	20	11	0	0	0	
	0830	"	1002.3	999.7	-1.0	26.7	25.1	24.3	30.5	88	+6	7.1	+2.2	22.2	0	17	14	0	0	0	0	0	23	8	0	0	0	
	1130	"	1002.7	1000.1	..	29.1	25.6	24.0	29.9	75	..	7.4	..	28.6	0	27	4	0	0	0	0	0	11	19	1	0	0	
	1730	"	1000.1	997.6	..	28.0	25.3	23.7	29.3	74	..	7.1	..	33.5	0	28	3	0	0	0	0	0	5	23	3	0	0	
Rajkot (Aerodrome)	0830	138	1002.5	987.1	-1.0	25.6	24.6	24.1	30.2	92	+9	6.8	+0.3	22.3	0	17	14	0	0	0	0	2	24	5	0	0	0	
	1130	"	1002.6	987.3	..	28.5	25.2	23.6	29.3	75	..	6.5	..	28.9	0	26	5	0	0	0	0	0	20	11	0	0	0	
	1730	"	1000.2	984.9	..	28.4	25.1	23.6	29.1	76	..	6.3	..	33.0	0	28	3	0	6	0	1	23	6	1	0	0		
Surendranagar	0830	74	1002.4	994.0	..	26.5	25.1	24.8	30.8	89																		

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Wind speed (km. p.h.)			No. of observations												
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, in km. per hour	62 or more	20 to 61	1 to 19	Wind direction											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Saurashtra and Kutch—Contd. Keshod	0830	51	1003.5	997.7	..	26.5	24.8	23.9	30.0	85	..	6.7	..	21.9	0	17	14	0	0	0	0	0	11	20	0	0	0	0	
	1130	"	1003.9	998.1	..	28.1	25.0	23.6	29.2	76	..	7.2	..	31.5	0	27	4	0	0	0	0	0	8	23	0	0	0	0	
	1730	"	1001.9	996.1	..	27.8	24.6	23.3	28.2	76	..	7.0	..	34.4	0	30	1	0	0	0	0	0	11	20	0	0	0	0	
	0230	8	1002.6	1001.7	..	26.7	25.6	25.1	31.9	91	..	6.9	..	26.3	0	22	9	0	0	0	0	0	5	25	1	0	0	0	
Veraval	0530	"	1002.2	1001.3	..	26.6	25.5	25.0	31.8	91	..	6.8	..	27.1	0	21	10	0	0	0	0	0	5	24	2	0	0	0	
	0830	"	1003.4	1002.5	-1.4	27.1	25.3	25.2	32.2	89	+3	6.9	+0.2	24.3	0	20	11	0	0	0	0	0	7	20	4	0	0	0	
	1130	"	1004.1	1003.2	..	28.0	26.1	25.3	32.1	86	..	7.1	..	23.5	0	21	10	0	0	0	0	0	8	20	3	0	0	0	
	1730	"	1002.0	1001.1	..	27.6	26.0	25.3	32.4	87	..	7.1	..	24.6	0	22	8	0	0	0	0	0	6	21	3	1	0	0	
	2330	"	1003.7	1002.8	..	26.9	25.7	25.2	32.1	90	..	6.5	..	25.6	0	20	11	0	0	0	0	0	6	23	2	0	0	0	0
	Konkan Dahanu	0830	5	1004.2	1003.7	-0.2	26.8	25.2	24.4	30.6	86	-2	6.9	-0.4	24.8	0	24	7	1	0	0	0	3	13	13	1	0	0	0
		1730	"	1002.7	1002.2	..	27.6	25.5	24.6	31.1	84	..	6.6	..	28.0	0	25	6	0	0	0	0	2	11	17	1	0	0	0
Bombay (Colaba)	0830	11	1005.2	1004.0	-1.3	26.5	25.0	24.3	30.5	88	+5	7.0	0	13.3	0	1	30	0	0	0	0	1	13	15	2	0	0	0	
	1130	"	1005.7	1004.5	..	27.8	25.5	24.5	30.8	83	..	6.7	..	17.9	0	8	23	0	0	0	0	1	9	16	5	0	0	0	
	1730	"	1003.7	1002.5	..	27.2	25.3	24.5	30.6	85	..	7.0	..	15.1	0	4	26	0	0	0	0	0	7	26	3	1	0	0	
Bombay (Santacruz Aerodrome)	0230	15	1004.0	1002.4	..	26.0	24.7	24.2	30.0	90	..	6.9	..	17.2	0	7	24	0	1	0	0	0	10	19	1	0	0	0	
	0530	"	1003.9	1002.3	..	25.8	24.5	24.0	29.8	90	..	7.1	..	16.0	0	10	21	0	0	0	0	0	12	16	3	0	0	0	
	0830	"	1005.2	1003.6	-1.3	26.2	24.9	24.3	30.4	89	+7	7.7	+0.7	16.7	0	12	17	2	0	0	0	0	11	14	2	2	0	0	
	1130	"	1005.8	1004.1	..	27.3	25.4	24.6	30.9	86	..	7.5	..	21.2	0	18	13	0	0	0	0	0	11	17	3	0	0	0	
	1730	"	1003.6	1002.0	..	26.8	25.0	24.3	30.2	87	..	7.7	..	20.1	0	13	18	0	0	0	0	0	8	20	3	0	0	0	
	2330	"	1005.4	1003.7	..	26.7	24.7	24.1	30.0	89	..	6.9	..	16.0	0	7	23	0	0	0	0	0	11	18	1	1	0	0	
	0830	7	1005.4	1004.6	-1.2	26.6	25.0	24.2	30.5	87	+3	7.7	+0.4	23.8	0	19	12	1	0	0	2	1	11	12	4	0	0	0	
Alibag	0830	20	1005.5	1003.2	-0.4	26.7	25.0	23.9	30.3	87	+2	7.1	..	22.2	..	..	..	0	0	0	0	0	4	14	5	1	0	0
Harna	0830	20	1004.2	1001.9	..	27.1	25.2	24.3	30.4	85	..	7.5	..	22.6	..	..	..	0	0	0	0	0	3	23	5	0	0	0
Ratnagiri	0830	35	1006.6	1002.6	-1.0	26.2	24.7	23.9	29.9	88	..	6.4	..	..	0	18	13	0	0	1	0	0	10	20	0	0	0	0
	1730	"	1004.9	1000.9	..	27.1	25.1	24.1	30.3	84	..	6.9	..	..	0	22	9	0	0	0	0	0	14	17	0	0	0	0
Davgad	0830	36	1003.7	1002.7	+0.1	26.4	25.4	25.0	31.7	92	+4	7.1	+0.4	29.0	0	28	3	0	0	0	0	0	3	20	8	0	0	0	
	1730	"	1005.0	1001.0	..	27.3	25.9	25.2	32.4	89	..	7.2	..	30.3	0	27	4	0	0	0	0	0	2	19	10	0	0	0	
Vengurla	0230	9	1006.2	1005.2	..	25.6	24.5	24.1	29.7	91	..	7.2	..	9.2	0	1	24	0	0	0	0	0	7	12	6	6	0	0	
	0530	"	1006.1	1005.1	..	25.5	24.4	23.8	29.6	90	..	7.3	..	9.3	0	2	23	1	0	0	0	0	7	15	2	6	0	0	
	0830	"	1007.4	1006.4	..	26.3	24.8	24.2	30.3	88	..	7.2	..	7.0	0	0	27	0	1	0	0	0	9	10	7	4	0	0	
	1130	"	1007.7	1006.7	..	27.4	25.5	24.6	31.0	85	..	6.9	..	9.0	0	0	29	0	0	0	0	0	4	12	14	3	2	0	
	1730	"	1005.7	1004.7	..	27.1	25.2	24.3	30.4	85	..	7.4	..	9.8	0	1	29	0	0	0	0	0	4	20	6	1	0	0	
	2330	"	1007.6	1006.6	..	25.7	24.6	24.1	29.9	91	..	6.7	..	7.7	0	0	24	0	0	0	0	0	4	12	8	7	0	0	
	0830	206	1003.7	980.5	..	24.8	24.0	23.6	29.2	93	..	8.0	..	9.9	0	0	31	0	0	0	0	0	0	31	0	0	0	0	0
Jaigaon	1730	"	1001.2	973.0	..	26.5	24.7	23.9	29.7	86	..	7.7	..	10.3	0	0	30	0	0	0	0	0	1	29	0	0	0	0	
	0830	201	1003.3	980.6	..	24.6	23.6	23.1	28.3	92	..	7.2	..	11.8	0	0	31	0	0	0	0	0	5	22	4	0	0	0	
Malegaon	1730	"	1000.3	977.9	..	27.4	24.7	23.2	28.8	78	..	7.0	..	22.2	0	18	12	0	0	0	0	0	4	7	19	1	0	0	
	0830	437	1003.1	954.7	-1.6	24.8	22.3	21.1	24.8	80	+4	6.7	+0.9	11.8	0	0	31	0	0	0	0	0	8	21	2	0	0	0	
Deolai	1730	"	1000.3	952.4	..	27.6	22.8	20.3	23.9	65	..	6.4	..	16.8	0	7	24	0	0	0	0	0	3	18	10	0	0	0	
	0830	571	1004.7	941.5	..	22.9	21.8	21.2	25.7	90	..	6.8	..	19.9	0	15	16	0	0	0	0	0	20	11	0	0	0	0	
Aurangabad	1730	"	1003.1	940.0	..	23.6	22.1	21.4	25.5	88	..	7.1	..	20.3	0	15	14	0	0	0	0	0	21	10	0	0	0	0	
	0830	581	1004.3	940.1	-1.6	23.0	21.8	21.2	25.4	90	+7	6.9	-0.1	15.7	0	5	26	0	0	0	0	0	3	28	0	0	0	0	
Aurangabad (Chikal-thana Aerodrome)	1730	"	1000.7	937.5	..	26.5	22.7	20.9	24.7	73	..	7.0	..	20.5	0	15	16	0	0	0	0	0	2	26	3	0	0	0	
	0230	579	1003.1	938.8	..	21.7	21.1	20.8	24.7	95	..	7.1	..	12.1	0	2	27	0	0	0	0	0	0	29	0	2	0	0	
	0530	"	1002.8	938.5	..	21.5	21.0	20.8	24.5	96	..	7.1	..	13.5	0	5	25	0	0	0	0	0	0	29	1	1	0	0	
	0830	"	1003.9	939.8	..	22.8	21.9	21.4	25.7	92	..	7.2	..	14.7	0	5	26	0	0	0	0	0	0	30	1	0	0	0	
	1130	"	1003.4	940.4	..	25.6	22.9	21.7	26.0	80	..	7.1	..	16.1	0	8	23	0	0	0	0	0	2	27	2	0	0	0	
	1730	"	1000.3	937.3	..	26.6	22.9	21.2	25.3	74	..	7.3	..	20.8	0	15	16	0	0	0	0	0	0	28	3	0	0	0	
	2330	"	1004.0	939.8	..	22.4	21.5	21.0	25.0	92	..																		

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mba.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations												
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable			
																												Wind direction		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
Maharashtra (Including Marathwada) —Contd. Poona (Lohagaon Aerodrome)	0230	593	1004.4	938.5	..	21.8	20.6	20.2	23.7	94	..	6.8	..	..	0	0	28	0	0	0	0	0	0	0	27	1	3	0	
	0530	"	1004.0	938.0	..	21.1	20.5	20.2	23.7	95	..	6.9	..	..	0	2	26	0	0	0	0	0	0	0	26	2	3	0	
	0830	"	1004.7	939.1	..	22.9	21.4	20.6	24.4	88	..	7.1	..	..	0	5	25	0	0	0	0	0	0	0	27	3	1	0	
	1130	"	1004.6	939.4	..	25.1	22.1	20.4	24.3	71	..	7.1	..	..	0	18	13	0	0	0	0	0	0	0	30	1	0	0	
	1730	"	1002.8	937.5	..	23.8	21.7	20.9	24.3	82	..	7.2	..	..	0	20	11	0	0	0	0	0	0	0	0	28	3	0	0
Barasahi	0830	551	1004.7	943.9	..	23.7	21.7	20.8	24.6	84	..	6.7	..	15.5	0	3	28	0	0	0	0	0	0	0	3	20	8	0	0	
	1730	"	1001.8	941.7	..	26.7	22.9	21.7	25.1	73	..	7.3	..	27.0	0	21	10	0	0	0	0	0	0	0	2	26	3	0	0	
Jeur	0830	521	1004.0	946.4	..	23.8	22.1	21.4	25.4	85	..	4.5	..	13.0	0	3	28	0	0	0	0	0	3	2	24	2	0	0	0	
	1730	"	1007.5	944.0	..	27.9	22.7	20.0	23.7	65	..	4.8	..	25.1	0	21	10	0	0	0	0	0	0	1	21	9	0	0	0	
Sholapur	0530	479	1004.3	951.0	..	22.7	21.0	20.4	23.6	87	..	5.1	..	6.6	0	0	28	0	0	0	0	0	0	0	16	9	3	3	0	
	0830	"	1005.2	952.1	-1.1	24.4	22.0	20.8	23.1	81	+6	6.3	+0.9	10.9	0	0	31	0	1	0	0	0	0	23	1	6	0	0	0	
	1130	"	1004.2	951.8	..	28.8	23.0	20.5	24.2	64	..	6.4	..	13.8	0	3	28	0	0	0	0	0	0	11	13	7	0	0	0	
	1730	"	1001.3	949.1	..	28.4	22.8	20.2	23.8	64	..	6.8	..	11.9	0	1	29	0	0	0	0	0	0	0	16	4	10	1	0	0
	2330	"	1005.0	951.9	..	24.4	22.1	20.9	24.8	81	..	4.6	..	9.1	0	0	30	0	0	0	0	0	1	15	10	4	1	0	0	
Miraj	0830	554	1005.9	944.7	-1.2	23.2	21.6	20.8	24.5	87	+2	6.7	-0.4	0	0	0	0	0	0	0	0	22	0	9	0	0
	1730	"	1003.4	942.8	..	25.9	22.2	20.4	24.1	72	..	6.7	0	0	0	0	0	0	0	1	26	1	3	0	0
Sholapur	0530	570	1004.8	941.5	..	21.5	20.8	20.4	24.0	94	..	6.4	..	11.9	0	5	24	0	0	0	0	0	0	0	0	28	1	2	0	0
	0830	"	1006.1	942.9	-0.6	22.5	21.4	20.9	24.7	91	+1	7.0	+0.4	15.7	0	6	25	0	0	0	0	0	0	0	1	26	4	0	0	0
	1130	"	1005.9	943.1	..	24.4	22.2	21.3	25.2	83	..	7.4	..	17.3	0	7	24	0	0	0	0	0	0	0	0	27	4	0	0	0
Vidarbha Buldhana	1730	"	1003.9	941.1	..	23.9	21.8	20.8	24.4	83	..	7.0	..	18.2	0	8	23	0	0	0	0	0	0	0	1	24	6	0	0	0
	0830	650	1002.7	931.1	..	22.5	21.1	20.4	24.5	88	..	7.0	..	6.0	0	0	31	0	0	0	0	0	0	4	0	27	0	0	0	0
Akola	1730	"	1000.0	929.2	..	24.9	22.3	21.1	25.0	81	..	7.2	..	9.9	0	0	25	0	0	0	0	0	0	1	0	24	6	0	0	0
	0830	282	1002.8	971.1	-1.7	24.8	23.1	22.3	26.9	86	+6	7.5	+1.3	4.4	0	0	27	0	0	0	0	0	0	0	0	26	1	4	0	0
Akola (Aerodrome)	1130	"	1002.6	971.1	..	27.1	23.9	22.3	27.0	76	..	7.5	..	6.9	0	0	31	0	0	0	0	0	0	3	25	3	0	0	0	
	1730	"	999.2	968.1	..	28.2	24.1	22.2	26.5	71	..	7.2	..	5.8	0	0	29	1	0	0	0	0	0	1	23	4	2	0	0	
	0530	309	1001.1	966.4	..	23.4	22.3	21.8	26.1	91	..	6.6	..	7.5	0	1	30	0	0	0	0	0	0	4	26	1	0	0	0	
Amravati	2330	"	1001.9	967.3	..	24.7	23.2	22.9	27.5	88	..	6.2	..	5.9	0	0	27	0	0	0	0	0	0	5	20	2	4	0	0	
	0830	370	1002.4	961.2	-1.7	24.3	22.9	22.1	26.7	88	+5	6.9	+0.7	12.1	0	1	29	0	0	0	0	0	0	2	28	0	1	0	0	
Yeotmal	1730	"	998.8	958.2	..	27.4	23.7	21.8	26.2	73	..	7.2	..	12.7	0	0	31	0	0	0	0	0	0	11	6	14	0	0	0	
	0830	451	1002.4	952.2	..	23.7	22.9	22.4	26.5	93	..	7.1	..	12.8	0	2	29	0	0	0	0	0	0	2	26	3	0	0	0	
Nagpur	1730	"	999.5	950.0	..	26.4	24.2	23.2	27.8	84	..	7.0	..	12.5	0	1	30	1	0	0	0	0	0	4	20	6	0	0	0	
	0230	310	1000.0	965.4	..	24.4	23.4	22.8	28.0	91	..	7.1	..	8.2	0	2	24	1	0	0	0	0	0	10	12	3	5	0	0	
	0530	"	1000.1	965.5	..	24.1	23.1	22.5	27.4	91	..	7.4	..	7.7	0	0	28	1	0	0	0	0	0	10	12	5	3	0	0	
	0830	"	1001.5	966.9	-1.9	25.5	23.8	22.9	28.2	86	+4	6.8	+0.5	11.8	0	1	28	0	1	0	0	0	0	7	15	6	2	0	0	
	1130	"	1001.2	966.9	..	27.8	24.6	23.2	28.1	77	..	7.3	..	14.8	0	4	27	0	2	0	0	0	0	8	14	7	0	0	0	
Gondia	1730	"	998.5	964.3	..	27.5	24.4	22.9	28.2	78	..	7.3	..	13.4	0	5	25	1	1	0	0	2	3	17	6	1	0	0	0	
	2330	"	1001.2	966.6	..	24.7	23.7	23.1	28.4	91	..	7.2	..	4.7	0	0	19	0	0	0	0	0	0	10	6	3	12	0	0	
	0830	313	1001.2	968.3	..	25.4	23.9	23.1	28.4	88	..	7.3	..	5.8	0	0	30	2	1	0	1	0	0	15	6	4	1	1	0	
Brahmapuri	1730	"	998.5	963.9	..	27.1	24.9	23.6	29.5	80	..	7.3	..	6.5	0	0	28	0	0	0	1	0	0	16	4	6	3	1	0	
	0830	229	1000.9	975.3	..	25.0	23.7	23.1	28.1	90	..	7.7	..	4.9	0	0	24	0	1	0	1	0	0	9	12	1	7	0	0	
Chanda	1730	"	998.5	973.0	..	27.4	25.0	24.0	29.6	82	..	7.5	..	5.5	0	0	31	0	1	0	0	1	8	17	4	0	0	0	0	
	0830	193	1002.4	980.7	-1.7	25.3	23.8	23.1	28.2	88	+8	7.8	+1.8	9.0	0	30	0	0	0	0	1	10	14	5	1	0	0	0	0	
Sironcha	1730	"	999.3	977.9	..	27.5	24.7	23.5	28.9	80	..	7.0	..	11.0	0	0	31	0	0	0	1	1	8	14	7	0	0	0	0	
	0830	123	1003.0	989.1	..	25.6	24.3	23.6	29.4	89	..	7.8	..	3.9	0	0	22	2	0	2	2	3	2	6	5	9	0	0	0	
Gannavaram	1730	"	999.9	986.1	..	28.1	25.2	23.8	29.5	78	..	7.0	..	6.7	0	0	27	2	1	1	2	1	3	10	7	4	0	0	0	
	0230	"	1002.2	999.5	..	25.5	24.2	23.6	29.1	90	..	7.2	..	..	0	6	16	0	0	0	0	0	0	0	7	11	4	9	0
Coastal Andhra Nellore	0530	20	1005.5	1001.3	-1.0	26.9	23.6	22.0	26.4	75	..																			

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—AUGUST, 1959 (SRAVANA 10—BHADRA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km.p.h.)			No. of observations												
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point			Vapour pressure in mbs.	Mean amount	Departure from normal	Mean wind speed, in km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Conatal Andhra Pradesh—contd. Gannavaram—contd.	0830	24	1003.9	1001.2	..	26.4	24.8	23.8	29.5	85	..	7.0	..	12.9	0	7	21	0	0	0	0	1	7	15	5	3	0	0
	1130	..	1003.5	1000.8	..	29.1	25.5	23.9	29.7	75	..	7.0	..	20.5	0	17	14	0	0	0	0	1	4	18	8	0	0	0
	1730	..	1000.4	997.6	..	30.0	25.9	24.1	30.0	72	..	7.0	..	12.9	0	4	25	1	0	0	1	2	3	13	9	2	0	0
	2330	..	1003.2	1000.5	..	26.3	24.9	24.3	30.4	89	..	7.3	..	7.0	0	0	21	3	0	0	0	4	6	6	2	10	0	0
Masulipatam	0530	3	1002.6	1002.3	..	25.9	24.5	23.8	29.5	88	..	6.6	..	9.3	0	0	31	0	0	0	0	3	21	7	0	0	0	0
	0830	..	1004.1	1003.8	-1.2	27.0	25.0	24.1	30.0	84	+5	6.7	+0.9	10.4	0	1	30	0	0	0	0	2	6	20	3	0	0	0
	1130	..	1003.3	1003.1	..	29.1	25.7	24.2	30.2	76	..	6.4	..	12.3	0	0	31	0	0	0	0	1	8	14	8	0	0	0
	1730	..	1001.1	1000.8	..	29.7	26.5	25.1	31.9	77	..	6.9	..	7.7	0	1	30	0	0	0	0	1	4	24	2	0	0	0
	2330	..	1003.0	1002.7	..	26.9	25.4	24.6	30.9	86	..	6.8	..	11.2	0	3	28	0	0	0	0	6	17	6	2	0	0	0
Nidadovolu	0830	12	1003.6	1002.2	..	26.4	24.9	24.2	30.2	88	..	7.5	..	14.6	0	6	24	0	0	0	0	0	12	17	1	1	0	0
	1730	..	1000.5	999.1	..	28.5	25.9	24.8	31.3	82	..	7.3	..	10.6	0	0	31	0	1	0	1	0	6	18	5	0	0	0
Kakinada	0830	8	1003.4	1002.5	-1.1	27.4	25.1	24.0	29.8	82	+2	6.5	+0.6	11.2	0	0	31	0	0	0	0	0	26	5	0	0	0	0
	1730	..	1000.4	999.5	..	29.3	25.6	24.0	29.8	74	..	6.5	..	10.6	0	0	31	0	0	0	0	0	19	0	0	0	12	0
Visakhapatnam	0230	3	1001.1	1000.7	..	26.5	25.1	24.5	30.7	89	..	6.9	..	6.3	0	2	16	0	0	1	0	0	16	1	0	18	0	0
	0530	..	1001.1	1000.7	..	26.0	25.0	24.6	30.9	92	..	7.8	..	5.5	0	2	16	0	0	0	0	0	22	2	0	7	0	0
	0830	..	1002.4	1002.0	-1.2	27.6	25.7	24.8	31.3	84	0	7.6	+1.1	8.0	0	2	22	0	0	0	0	0	22	2	0	7	0	0
	1130	..	1001.7	1001.3	..	29.8	26.8	25.4	32.4	78	..	7.4	..	13.9	0	4	26	0	0	1	0	1	25	3	0	1	0	0
	1730	..	999.6	999.2	..	29.3	26.6	25.4	32.4	80	..	2.4	..	11.5	0	5	23	0	0	0	0	0	27	1	0	3	0	0
	2330	..	1001.8	1001.4	..	27.3	25.8	25.1	31.9	87	..	6.7	..	8.5	0	0	28	0	0	0	0	0	26	2	0	3	0	0
Calingapatam	0830	6	..	..	..	..	..	..	..	..	..	7.0	+1.8	5.6	0	0	31	0	0	0	0	12	18	1	0	0	0	0
	1730	..	..	..	..	..	..	..	..	..	..	7.2	..	8.1	0	0	31	0	0	0	0	0	5	15	10	1	0	0
Telangana Ramagundam	0830	156	1002.7	985.1	..	26.0	24.0	23.0	28.1	84	..	7.7	..	5.9	0	0	30	0	0	0	0	0	7	15	6	1	0	0
	1730	..	999.5	982.2	..	29.1	25.2	23.3	28.6	72	..	6.6	..	5.0	0	0	30	2	0	0	0	0	17	7	0	7	0	0
Nizamabad	0830	381	1003.5	961.1	-1.6	24.0	22.6	21.5	25.5	82	+3	6.6	+1.5	3.4	0	0	24	0	0	0	0	1	9	5	4	12	0	0
	1730	..	999.9	958.0	..	27.6	24.3	22.8	27.8	76	..	6.6	..	1.9	0	0	19	0	0	0	0	1	7	11	11	0	0	0
Mahbubnagar	0830	505	1005.1	949.1	..	23.9	21.8	20.8	24.6	83	..	7.2	..	18.0	0	0	31	1	0	0	0	0	2	19	9	1	0	0
	1730	..	1001.0	945.9	..	27.7	23.1	20.9	24.7	68	..	7.6	..	6.2	0	0	30	0	0	0	0	1	1	21	6	2	0	0
Hyderabad (Begumpet Aerodrome)	0230	545	1002.8	942.6	..	23.1	21.4	20.5	24.1	86	..	7.3	..	18.1	0	10	19	0	0	0	0	0	0	24	6	1	0	0
	0530	..	1003.1	942.8	..	22.4	21.0	20.3	23.8	89	..	7.5	..	19.3	0	14	16	0	0	0	0	0	0	21	10	0	0	0
	0830	..	1004.4	944.3	-0.9	23.6	21.6	20.6	24.3	84	+4	7.4	+1.3	22.8	0	18	13	0	0	0	0	0	0	0	19	12	0	0
	1130	..	1003.8	944.1	..	26.2	22.5	20.8	24.6	73	..	7.3	..	24.5	0	20	11	0	0	0	0	0	2	15	8	4	0	0
	1730	..	1000.3	944.1	..	26.9	23.0	21.1	25.0	72	..	7.4	..	16.4	0	10	17	2	0	0	0	0	1	3	17	6	2	0
	2330	..	1003.9	943.8	..	23.9	22.1	21.3	25.3	86	..	7.4	..	16.4	0	9	20	0	0	0	2	1	3	17	6	2	0	0
Hakimpet	0530	613	1002.8	935.2	..	21.9	20.7	20.1	23.5	89	..	7.1	..	21.3	0	18	13	0	0	0	0	0	2	24	5	0	0	0
	0830	..	1003.7	936.3	..	23.1	21.3	20.3	23.8	85	..	7.1	..	23.8	0	8	23	0	0	0	0	0	1	25	5	0	0	0
	1130	..	1003.2	936.3	..	25.5	22.3	20.8	24.6	75	..	7.3	..	25.0	0	24	7	0	0	0	0	0	0	1	25	5	0	0
	1730	..	1000.9	934.1	..	26.3	22.8	21.1	25.0	74	..	7.0	..	18.8	0	14	17	0	0	0	0	0	2	21	8	0	0	0
	0830	6	1003.4	973.4	-1.7	25.3	23.2	22.2	29.7	84	+9	6.5	+0.7	6.2	0	0	31	0	0	0	0	4	2	21	4	0	0	0
	1730	..	1000.8	971.2	..	28.3	24.6	22.8	27.7	72	..	6.4	..	5.4	0	0	31	2	1	0	1	1	1	17	8	0	0	0
Bhadrachallam	0830	111	1004.0	991.1	..	25.8	24.1	23.2	28.4	86	..	7.4	..	7.9	0	0	27	2	1	0	1	0	8	15	0	4	0	0
	1730	..	1000.1	987.1	..	27.7	25.5	24.1	30.0	77	..	7.7	..	5.4	0	0	31	4	3	0	1	0	8	7	8	0	0	0
Khammameth	0830	112	1003.8	991.2	..	26.1	24.3	23.4	28.8	86	..	7.3	..	9.3	0	1	30	0	0	0	0	2	11	16	2	0	0	0
	1730	..	1000.3	987.9	..	28.8	25.7	24.3	30.4	78	..	7.7	..	6.6	0	0	27	3	0	0	0	2	5	10	7	4	0	0
Royalaseema Aroyavaram	0830	701	1006.2	929.5	..	24.0	20.3	18.3	21.0	70	..	5.9	..	8.5	0	2	26	3	0	0	0	0	3	9	16	0	0	0
	1730	..	1001.9	926.5	..	28.0	21.4	17.9	20.5	55	..	7.0	..	10.1	0	0	31	1	0	0	2	0	3	9	17	1	13	0
Cuddapah	0830	130	1006.3	991.6	-1.1	28.1	23.5	21.2	25.2	67	-1	6.2	+0.3	4.1	0	0	18	0	0	0	0	0	0	16	3	12	0	0
	1730	..	1001.7	987.3	..	31.3	24.7	21.4	25.5	57	..	6.3	..	5.9	0	0	19	0	0	0	0	0	5	25	1	0	0	0
Anantapur	0530	350	1004.7	965.6	..	24.0	21.4	19.9	23.1	78	..	7.1	..	15.3	0	1	30	0	0									

D. vision and station	Hour of observation I.S.T.	Height of barometer cylinder above mean sea level in metres	Mean pressure in Millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, in km. per hour	Wind speed (km. p.h.)			No. of observations																							
			At mean sea level or height in ft. above or below mean sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Departure from normal	Mean amount		Departure from normal	62 or more	20 to 61	1 to 19	Wind direction																						
			N	NE	E	SE	S	SW	W			NW	Calm		Variable																										
Madras State—contd.																																									
Pamban	0830	4	1006.7	1005.4	-1.7	28.7	25.9	24.5	20.1	79	+3	4.1	+1.2	12.3	0	3	27	0	1	0	3	8	11	6	1	1	1	0	0	0	0	0	0	0	0	0	0	0			
.	1730	"	1004.4	1003.1	..	28.6	26.1	25.0	21.7	86	..	5.2	..	15.2	0	5	28	0	0	0	2	19	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
ondi	0830	5	1007.5	1006.9	..	28.9	25.9	24.6	20.9	79	..	4.8	..	11.6	0	0	23	1	2	2	2	7	7	2	0	0	0	8	0	0	0	0	0	0	0	0	0	0			
.	1730	"	1008.8	1003.2	..	30.1	27.7	26.6	24.8	89	..	4.8	..	32.5	0	28	3	1	0	0	12	16	1	1	0	0	0	0	0	14	15	0	0	0	0	0	0	0			
Mathurai	0830	133	1007.1	992.2	-1.1	27.7	22.9	20.1	25.3	64	+2	7.4	+2.2	..	0	0	16	0	2	0	0	0	0	0	0	0	0	14	15	0	0	0	0	0	0	0	0	0			
.	1730	"	1003.0	988.4	..	32.8	23.7	20.8	21.7	45	..	7.4	..	..	0	0	26	0	0	0	1	0	20	0	0	0	11	3	6	0	0	0	0	0	0	0	0	0	0	
Mathurai (Aero-drome).	0530	131	1006.1	991.1	..	26.0	21.4	18.6	21.4	65	..	5.0	..	6.9	0	3	22	0	0	0	2	0	0	1	0	0	11	3	6	0	0	0	0	0	0	0	0	0	0		
.	0830	"	1007.4	992.6	..	29.0	22.3	18.5	21.9	34	..	4.9	..	10.3	0	5	25	5	2	2	0	3	0	13	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1130	"	1006.6	991.9	..	33.0	22.9	17.1	19.5	40	..	4.5	..	12.6	0	7	23	4	1	1	0	1	4	16	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1730	"	1003.6	988.9	..	32.0	22.9	17.7	20.2	45	..	5.4	..	16.9	0	12	19	1	3	0	2	2	2	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nagapattinam	0830	9	1007.2	1006.1	-1.0	28.5	24.6	22.7	27.8	71	+1	5.7	+1.1	12.1	0	0	30	0	0	0	1	4	12	11	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1730	"	1005.4	1002.4	..	31.7	26.1	23.5	23.9	63	..	5.6	..	19.9	0	9	22	0	0	0	0	0	1	27	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tiruchirapalli	0230	88	1005.2	995.3	..	26.9	22.2	19.6	22.8	65	..	4.1	..	32.3	0	26	3	0	0	0	0	0	0	1	26	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	0530	"	1005.4	995.5	..	26.3	22.2	19.9	23.2	68	..	5.4	..	26.7	0	22	6	0	0	0	0	1	3	26	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	0830	"	1007.1	996.9	-1.5	28.6	22.9	19.8	23.1	60	-4	5.7	+1.1	30.1	0	24	7	0	0	0	0	0	2	2	25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1130	"	1005.8	996.1	..	32.9	23.8	18.9	21.8	44	..	5.7	..	34.9	0	25	6	0	0	0	3	4	0	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	1730	"	1002.9	993.1	..	32.9	23.7	18.8	21.7	44	..	6.3	..	34.3	0	24	7	0	0	0	0	1	3	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	2330	"	1006.7	996.8	..	27.8	22.4	19.6	22.8	4.4	..	32.3	0	25	6	1	0	0	0	1	3	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coimbatore	0830	409	1007.8	992.3	-0.8	24.5	21.7	20.0	23.4	76	-5	6.7	+2.4	17.0	0	7	24	0	0	0	0	14	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1730	"	1004.6	939.5	..	26.6	22.2	19.9	23.2	67	..	7.0	..	20.8	0	17	14	0	0	0	0	8	19	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Coimbatore (Peela-medu Aerodrome).	0530	398	1006.6	991.8	..	22.1	21.3	20.8	24.6	92	..	6.0	..	18.5	0	11	19	0	0	0	0	7	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	0830	"	1007.7	993.1	..	24.5	22.3	21.1	25.0	82	..	5.9	..	25.3	0	22	9	0	0	0	0	7	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1130	"	1006.7	992.8	..	28.6	23.2	20.3	23.8	62	..	5.5	..	34.3	0	25	6	0	1	1	0	7	21	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	1730	"	1004.7	990.6	..	26.4	22.5	20.4	24.0	70	..	6.3	..	38.3	0	31	0	0	0	0	0	8	22	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	2330	"	1006.3	993.4	..	22.8	21.8	21.2	25.2	91	..	4.6	..	28.5	0	27	3	0	0	0	0	8	15	4	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Salem	0530	278	1006.1	974.8	..	23.8	21.9	19.2	23.2	84	..	6.8	..	3.2	0	0	27	0	0	0	0	1	25	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	0830	"	1007.2	976.1	-1.1	25.6	22.6	21.0	24.9	78	-2	5.8	+0.6	6.6	0	0	30	0	0	0	0	1	25	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	1130	"	1006.0	975.4	..	30.6	23.6	20.0	23.4	54	..	6.8	..	6.7	0	0	31	0	0	0	0	6	12	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	1730	"	1002.8	972.3	..	30.3	23.3	19.6	22.8	55	..	6.9	..	5.9	0	0	29	0	0	1	0	5	9	13	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
.	2330	"	1007.1	976.0	..	25.9	22.5	20.8	24.6	74	..	5.6	..	3.4	0	1	20	0	0	0	0	2	14	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kallakurichi	0830	127	1006.2	992.3	..	28.5	24.4	22.6	27.4	70	..	4.7	..	6.8	0	0	27	1	0	0	1	11	12	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	1730	"	1001.6	987.7	..	33.6	25.7	21.9	26.3	52	..	5.9	..	11.5	0	0	31	1	2	0	1	5	18	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cuddalore	0530	12	1004.7	1003.4	..	26.4	23.6	22.2	26.7	78	..	4.9	..	0.8	0	0	6	0	0	0	1	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.	0830	"	1006.3	1005.0	-1.3	28.9	24.5	22.4	27.1	68	-5	5.5	+0.5	3.3	0	0	24	0	0	0	0	5	16	3	0	7	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
.	1130	"	1005.7	1004.4	..	33.0	25.1	21.3	23.3	51	..	4.9	..	3.6	0	0	27	0	0	0	3	2	14	7	1	4	2	4	2	4	0	0	0								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—AUGUST, 1959 (SRĀVANĀ 10—BHĀDRĀ 9, 1881 SAKĀ)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Climo)		Wind speed (km. p.h.)			No. of observations													
			At mean sea level or height in f.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction												
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
Coastal Mysore																														
—cont. Mangalore . . .	0830	22	1008.6	1006.1	-1.2	26.0	24.5	23.9	29.5	89	-1	7.0	-0.3	5.9	0	0	31	0	1	6	1	1	13	4	5	0	0			
	1730	"	1006.7	1004.2	"	26.8	24.8	23.9	29.7	85	"	7.3	"	7.8	0	0	31	1	0	2	0	0	4	12	12	0	0			
Mangalore (Bajpe Aerodrome)	0230	102	1007.6	995.9	"	24.3	23.6	23.2	28.4	9	"	6.8	"	6.5	0	3	17	0	0	0	2	0	2	15	1	11	0			
	0530	"	1007.4	995.7	"	24.1	23.4	23.0	28.1	9	"	7.0	"	7.1	0	0	21	0	0	3	1	0	1	14	2	10	0			
	0830	"	1008.7	997.0	"	24.7	23.9	23.5	28.9	93	"	7.4	"	6.7	0	1	26	1	1	2	3	0	4	13	3	4	0			
	1130	"	1008.9	997.2	"	26.4	24.6	23.8	29.5	86	"	7.3	"	11.4	0	1	29	0	1	0	0	0	2	22	5	1	0			
	1730	"	1006.8	995.1	"	25.9	24.2	23.4	28.8	86	"	7.8	"	13.0	0	5	25	0	0	0	0	0	2	17	11	1	0			
	2330	"	1009.1	997.3	"	24.5	23.7	23.3	28.6	93	"	6.8	"	6.1	0	1	22	0	0	2	2	0	2	12	5	8	0			
Interior Mysore (North)																														
Bidar . . .	0830	664	1004.4	981.1	"	22.1	20.9	20.3	23.8	90	+7	7.1	+1.7	24.7	0	24	7	0	0	0	0	0	12	13	6	0	0			
	1730	"	1000.0	928.2	"	26.8	22.3	20.1	23.5	89	"	6.7	"	21.1	0	15	16	0	0	0	0	0	9	12	10	0	0			
Gulbarga . . .	0830	458	1005.2	954.3	-1.2	24.4	22.0	20.9	24.7	81	+3	7.8	+2.3	22.9	0	15	16	1	0	0	0	0	9	17	4	0	0			
	1730	"	1000.6	950.7	"	28.8	22.8	19.8	23.1	60	"	8.0	"	46.8	3	28	0	0	0	0	0	0	4	23	4	0	0			
Bijapur . . .	0830	594	1005.7	940.1	-1.0	23.5	21.4	20.4	24.0	83	+6	7.6	+2.0	8.6	0	0	31	0	0	0	0	0	4	25	2	0	0			
	1730	"	1001.3	987.0	"	28.0	22.3	19.5	22.7	60	"	7.7	"	10.0	0	1	30	0	0	0	0	0	2	27	2	0	0			
Belgaum . . .	0830	753	1006.6	923.9	-1.2	21.4	20.6	20.2	23.7	93	+2	7.2	+0.1	10.2	0	0	31	0	0	0	0	0	0	30	1	0	0			
	1730	"	1004.6	922.4	"	22.6	20.9	20.1	23.5	86	"	7.8	"	14.6	0	0	31	0	0	0	0	0	0	26	5	0	0			
Belgaum (Sambre Aerodrome)	0530	747	1005.6	923.3	"	21.0	20.3	20.1	23.5	95	"	7.1	"	10.3	0	4	20	0	0	0	0	0	0	24	0	7	0			
	0830	"	1006.8	924.7	"	22.0	21.1	20.7	24.4	93	"	6.9	"	14.4	0	0	21	0	0	0	0	0	0	25	4	2	0			
	1130	"	1006.5	924.8	"	23.7	21.9	21.1	25.0	86	"	7.2	"	20.4	0	16	15	0	0	0	0	0	0	27	4	0	0			
	1730	"	1004.4	922.8	"	23.3	21.7	20.9	24.7	87	"	7.2	"	22.4	0	20	11	0	0	0	0	0	0	24	7	0	0			
Gadag . . .	0830	650	1006.5	934.9	-0.9	23.2	21.4	20.6	24.3	86	+2	7.3	+1.4	15.7	0	2	29	0	0	0	0	0	2	29	0	0	0			
	1730	"	1003.6	932.9	"	25.9	22.2	20.4	24.0	71	"	6.9	"	15.9	0	4	27	0	0	0	0	0	2	25	4	0	0			
Gadag (P.B.O.) . . .	0530	661	1005.3	982.3	"	21.4	20.4	19.9	23.2	91	"	7.1	"	16.3	0	2	29	0	0	0	0	0	1	30	0	0	0			
	0830	"	1006.3	933.6	"	23.0	21.1	20.3	23.8	85	"	7.0	"	14.7	0	1	30	0	0	0	0	0	0	31	0	0	0			
	1130	"	1005.5	983.5	"	26.2	21.9	20.0	23.4	70	"	6.8	"	17.7	0	7	24	0	0	0	0	0	0	31	0	0	0			
	1730	"	1003.1	981.3	"	26.0	21.8	20.0	23.4	70	"	6.9	"	22.1	0	17	13	0	0	0	0	0	0	30	0	1	0			
	2330	"	1006.7	933.8	"	22.5	20.8	20.0	23.4	87	"	6.4	"	17.0	0	5	26	0	0	0	0	0	3	28	0	0	0			
Raichur . . .	0830	400	1005.6	961.2	-1.2	24.9	22.4	21.1	25.0	80	+4	5.5	+1.2	30.3	0	2	28	0	0	0	0	1	11	11	7	1	0			
	1730	"	1001.1	957.5	"	28.8	23.6	20.9	24.7	63	"	5.5	"	15.9	0	9	22	1	0	0	1	2	7	8	12	0	0			
Interior Mysore (South)																														
Bellary . . .	0830	449	1006.1	956.2	-1.2	25.5	22.0	20.0	23.4	72	+5	6.3	+0.7	9.1	0	0	30	0	2	0	0	0	8	1	19	1	0			
	1730	"	1001.8	952.8	"	29.3	22.9	19.5	22.7	58	"	6.0	"	11.4	0	0	30	2	0	0	0	0	8	9	11	1	0			
Chitaldrug . . .	0830	733	1006.8	926.1	-1.2	21.9	20.3	19.5	22.6	86	+5	7.5	+0.6	11.4	0	1	30	0	0	0	0	0	11	20	0	0	0			
	1730	"	1003.5	924.0	"	25.1	21.2	19.1	22.1	71	"	7.2	"	8.5	0	0	30	0	0	0	0	0	3	27	0	1	0			
Shimoga . . .	0830	511	1007.4	944.2	"	23.1	21.4	20.5	24.1	25	"	7.2	"	5.1	0	0	28	0	0	0	0	1	10	15	2	3	0			
	1730	"	1005.3	942.4	"	24.1	21.8	20.7	24.4	81	"	7.1	"	5.9	0	0	31	0	0	0	0	2	10	20	1	0	0			
Balehonnur . . .	0830	"	"	"	"	19.7	19.2	18.7	21.6	95	+1	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
Hassan . . .	0830	960	1481.7	903.3	"	20.1	19.2	18.8	21.7	92	+8	7.3	+0.7	12.6	0	1	28	0	0	0	0	0	3	26	0	2	0			
	1730	"	1467.2	901.4	"	22.2	20.0	18.9	21.8	82	"	7.5	"	15.8	0	1	29	0	0	0	0	0	1	28	1	1	0			
Mysore . . .	0830	767	1008.3	923.9	-1.0	21.4	19.9	19.0	22.0	86	+6	5.6	-0.7	7.7	0	0	28	0	0	0	0	0	13	15	0	3	0			
	1730	"	1005.1	921.8	"	24.5	20.7	18.6	21.4	71	"	7.0	"	7.2	0	2	24	0	0	1	0	0	9	16	0	5	0			
Bangalore (Central Observatory)	0230	921	1465.6	905.9	"	19.6	18.9	18.5	21.3	93	"	5.8	"	14.9	0	2	29	0	0	1	0	0	3	27	0	0	0			
	0830	"	1477.4	906.9	-1.1	20.5	19.4	18.8	21.7	90	+6	7.7	+0.5	15.6	0	1	30	0	0	0	0	0	5	26	0	0	0			
	1130	"	1482.6	906.8	"	24.1	20.3	18.3	21.0	70	"	7.4	"	15.4	0	6	25	0	0	0	0	0	3	23	5	0	0			
	1730	"	1461.7	904.6	"	23.9	20.6	18.8	21.7	75	"	7.3	"	15.6	0	6	24	0	0	0	0	0	4	19	7	1	0			
Bangalore (Aero-drome)	0530	897	1463.8	908.2	"	19.6	19.2	19.0	22.0	96	"	7.0	"	21.0																

MONTHLY MEANS OF UPPER WINDS,
August 1959 (SRAVANA 10—BHADRA 9, 1881 SAKA)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9·0 km. a.m.s.l. are given under Table IV and data above 9·0 km. a.m.s.l. under, Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0·15 km. a.g., 0·3, 0·6, 0·9, 1·5, 2·1, 3·0, 3·6, 4·5, 5·4, 6·0, 7·2, 9·0, 10·5, 12·0, 14·1, 16·2, 18·0, 21·0, 24·0, 27·0, 30·0, 33·0 and 36·0 km. a.m.s.l. Of these, the levels 1·5, 3·0, 5·4, 7·2, 9·0, 12·0, 14·1 and 16·2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No.	Station	Lat. N.	Long. E.	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
1	Agartala	23°53'	91°15'	17	28th November 1951	0530	1730	2330
2	Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330
3	Amausi	26°45'	80°53'	132	20th November 1950	0530	1730	2330
4	Ambala	30°23'	76°46'	279	1st April 1941	0530	1730	2330
5	Amritsar	31°38'	74°52'	243	21st June 1967	0530*	1730*	
6	Anantapur	14°41'	77°37'	364	12th February 1946	0530	1730	2330
7	Asansol	23°41'	86°59'	135	29th May 1942	0530	1730	2330
8	Baghdogra	26°38'	88°19'	140	7th June 1953	0530	1730	2330
9	Bairagarh	23°17'	77°21'	532	26th February 1943	0530	1730	2330
10	Bajpe	12°55'	74°53'	109	25th May 1959	0530	1730	2330
11	Bamrauli	28°27'	81°44'	103	28th February 1930	0530*	1130	1730* 2330
12	Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330
13	Barcilly	28°22'	79°24'	180	12th January 1943	0530	1730	
14	Begumpet	17°27'	78°28'	543	1st September 1929	0530	1730	2330
15	Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730	
16	Bhubaneswar	20°15'	85°50'	54	5th December 1942	0530	1730	2330
17	Bhuj	23°15'	69°48'	90	14th September 1937	0530	1730	2330
18	Bikaner	28°00'	73°18'	229	18th October 1946	0530	1730	2330
19	Chikalhana	19°51'	75°24'	583	7th October 1951	0530	1730	2330
20	Cochin†	09°56'	76°14'	13	16th March 1942	0530	1730	2330
21	Darjeeling	27°03'	88°16'	2115	21st May 1956	0530	1730	
22	Dehra Dun	30°19'	78°03'	692	1st October 1958	0530	1730	
23	Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730* 2330
24	Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330
25	Gannavaram	16°32'	80°48'	34	8th April 1942	0530	1730	2330
26	Gauhati	26°05'	91°43'	51	12th Mach 1955	0530*	1130	1730* 2330
27	Gaya	24°45'	84°57'	119	19th March 1937	0530	1730	2330
28	Gopalpur	19°16'	84°53'	24	15th February 1946	0530	1730	2330
29	Gorakhpur	26°45'	83°22'	83	5th January 1943	0530	1730	
30	Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330
31	Imphal	24°51'	93°58'	805	8th March 1952	0530	1730	2330
32	Jabalpur	23°10'	79°57'	402	30th July 1928	0530	1730	2330
33	Jagdalpur	19°05'	82°02'	562	25th March 1948	0530	1730	2330
34	Jaipur	26°49'	75°48'	404	6th June 1953	0530	1730	2330
35	Jamshedpur	22°49'	86°11'	147	23rd July 1942	0530	1730	
36	Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330
37	Jodhpur	26°18'	73°01'	229	15th October 1934	0530*	1130	1730* 2330
38	Madras	13°00'	80°11'	29	8th April 1926	0530*	1130	1730* 2330
39	Minicoy	08°18'	73°00'	16	14th April 1941	0530	1730	2330
40	Mohanbari	27°29'	95°01'	112	1st June 1948	0530	1730	2330
41	Nagpur	21°06'	79°03'	316	23rd April 1943	0530*	1130	1730* 2330
42	Nanpara	27°50'	81°30'	142	23rd April 1957	0530	1730	
43	New Delhi	28°35'	77°12'	227	20th October 1936	0530*	1130	1730* 2330
44	Pocna	18°32'	73°51'	593	5th January 1925	0530	1730	2330
45	Port Blair	11°40'	92°43'	93	29th October 1945	0530*	1130	1730* 2330
46	Raipur	21°14'	81°39'	308	15th July 1944	0530	1730	2330
47	Raxaul	26°59'	84°51'	83	28th October 1957	0530	1730	
48	Santa Cruz	19°07'	72°51'	27	14th May 1933	0530*	1130	1730* 2330
49	Tezpur	26°37'	92°47'	79	12th August 1932	0530	1730	2330
50	Tiruchirapalli	10°46'	78°43'	96	22nd June 1936	0530	1730	2330
51	Trivandrum	08°29'	76°57'	73	8th December 1928	0530*	1130	1730* 2330
52	Udaipur	24°35'	73°42'	587	24th June 1947	0530	1730	2330
53	Vengurla	15°52'	73°38'	8	22nd November 1941	0530	1730	2330
54	Veraval	20°54'	70°22'	17	13th October 1941	0530*	1130	1730* 2330
55	Visakhapatnam	17°43'	83°14'	10	24th September 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.3	2.0	145	31	2.2	1.9	162	31	2.4	2.1	149	31	2.9	2.6	245	31	3.0	2.4	257	31	2.9	2.5	242				
0.15 a.mg. . .	25	6.2	5.9	145	29	5.3	4.6	178	28	6.7	6.4	163	30	7.0	6.4	250	26	6.1	5.1	251	31	6.7	6.1	247				
0.3 a.m.s.l. . .	25	7.2	7.0	162	29	6.1	5.5	183	28	7.6	7.1	175	30	8.5	7.8	253	26	6.4	5.6	253	31	7.8	7.0	247				
0.6 " . . .	24	6.6	6.3	165	29	6.9	6.2	185	28	7.7	7.3	178	27	10.8	10.1	267	26	7.7	6.6	259	30	9.3	8.6	255				
0.9 " . . .	22	5.4	4.2	166	28	6.8	6.0	182	27	6.5	5.9	178	19	10.1	9.8	264	24	7.8	7.2	259	27	8.7	7.8	264				
1.5 " . . .	19	5.4	3.5	145	24	7.6	5.9	176	18	6.0	5.1	162	7	7.8	7.2	250	19	8.1	7.5	260	17	6.7	5.7	262				
2.1 " . . .	18	5.8	4.7	128	17	8.1	7.1	147	13	6.5	5.7	158	2	6.2	4.5	251	12	6.2	5.8	270	9	4.9	2.0	226				
3.0 " . . .	16	6.6	4.2	138	14	8.7	7.6	127	7	6.1	5.5	133					4	2.3	0.9	246	7	4.0	3.0	075				
3.6 " . . .	10	6.8	6.2	131	11	7.9	7.3	130	6	8.0	7.3	121					3	4.6	3.5	080								
4.5 " . . .	10	7.6	7.4	121	10	8.1	7.2	116	4	7.7	7.6	112					3	5.1	5.1	080								
5.4 " . . .	9	7.4	7.2	113	6	7.9	5.5	105	3	7.1	6.8	105					2	9.3	9.0	097								
6.0 " . . .	7	9.3	8.5	115	4	6.3	5.9	083	1	7.7	7.7	050					1	6.7	6.7	265								
7.2 " . . .	5	9.4	8.4	095	2	8.0	7.7	063																				
9.0 " . . .	1	13.4	13.4	060	1	6.7	6.7	110																				

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.7	0.1	135	31	2.7	0.6	113	31	1.4	0.3	154	31	1.4	0.5	120	31	1.3	0.4	258	31	0.9	0.4	125				
0.15 a.mg. . .	28	4.2	3.5	094	31	4.7	1.5	100	29	5.3	2.7	103	28	4.4	1.5	137	31	3.7	0.2	245	31	3.9	1.3	141				
0.3 a.m.s.l. . .	28	6.3	3.7	100	31	4.7	1.6	099	29	5.6	2.9	104	28	2.2	0.9	122	31	2.1	0.4	224	31	2.0	0.8	133				
0.6 " . . .	27	8.0	4.6	105	30	5.8	2.2	087	29	6.0	3.3	104	28	4.7	1.5	190	31	4.2	0.1	280	31	3.9	1.2	157				
0.9 " . . .	25	7.4	5.7	100	29	6.2	2.8	094	29	6.5	3.8	100	25	4.2	1.5	202	31	4.4	0.7	288	31	3.9	0.9	199				
1.5 " . . .	23	7.2	5.3	093	26	6.3	4.3	100	27	6.8	5.0	106	24	4.0	0.9	271	29	5.1	3.1	312	29	4.3	1.4	274				
2.1 " . . .	19	7.5	6.9	094	20	6.1	3.9	100	19	6.2	4.1	105	21	5.4	1.9	335	29	6.1	3.4	312	27	5.1	2.1	292				
3.0 " . . .	11	6.2	5.5	097	15	7.2	5.0	100	9	4.7	2.0	120	17	5.8	1.4	349	26	5.9	3.0	321	25	4.8	2.2	325				
3.6 " . . .	8	4.8	4.1	093	11	7.4	4.9	096	1	2.6	2.6	140	13	6.6	1.5	021	22	5.1	2.8	336	13	3.5	2.7	332				
4.5 " . . .	5	4.7	3.0	101	8	7.6	4.2	094					5	4.2	1.3	154	18	4.7	1.9	350	6	4.1	3.2	359				
5.4 " . . .	3	5.5	3.9	076	3	7.7	5.8	082					4	3.9	1.7	199	15	5.4	1.1	009	4	4.6	3.5	018				
6.0 " . . .	3	4.6	2.2	094	2	8.0	7.8	106					3	5.0	1.6	216	13	5.1	0.1	359	4	4.3	3.5	013				
7.2 " . . .					1	2.1	2.1	115					3	5.8	3.1	215	11	4.8	1.0	260								
9.0 " . . .					1	7.7	7.7	120					2	4.6	1.3	203	8	7.6	1.1	313								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra, 9 1881 Saka)

Station	AMRITSAR								ANANTPUR												ASANSOL							
	0530*				1730*				0530				1730				2330				0530							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.6	1.0	175	31	1.4	0.7	115	31	4.7	4.5	260	31	7.1	6.9	269	31	5.9	5.8	266	31	0.8	0.7	122				
0.15 a.g.	31	1.0	0.8	200	31	1.4	0.7	115	30	8.5	8.4	255	31	11.4	11.1	266	31	10.0	9.8	255	19	3.8	1.8	147				
0.3 a.m.s.l.	31	1.1	0.8	190	31	1.4	0.7	115													19	3.9	1.7	157				
0.6 "	31	4.3	2.6	175	31	3.3	1.2	148	30	9.7	9.7	256	31	11.6	11.2	267	31	10.7	10.4	257	19	5.0	1.4	151				
0.9 "	31	3.8	1.7	200	31	3.1	1.1	206	30	13.0	12.8	265	31	11.8	11.5	268	31	12.8	12.5	265	18	4.7	1.9	132				
1.5 "	31	4.3	2.1	280	31	3.5	2.0	280	29	14.4	14.2	277	30	12.4	12.1	271	31	13.2	12.4	279	10	4.4	3.2	127				
2.1 "	31	4.9	3.0	310	31	4.1	3.3	300	27	12.6	12.3	285	29	13.6	13.4	278	31	11.5	11.2	284	9	5.1	3.9	141				
3.0 "	31	5.0	3.1	328	31	5.1	4.2	316	21	10.4	10.0	294	22	11.1	10.4	282	24	10.3	9.7	289	6	5.7	5.4	114				
3.6 "	31	5.5	2.6	345	31	5.3	4.5	326	15	9.8	9.2	292	12	9.1	8.4	272	13	9.0	7.9	286	4	6.2	5.8	120				
4.5 "	31	5.1	2.7	340	31	5.6	4.5	332	10	7.1	6.0	298	7	8.2	7.2	275	8	6.9	5.8	288	3	8.4	8.3	121				
5.4 "	31	4.9	1.9	322	31	5.6	4.6	320	4	10.5	8.6	275	4	4.4	2.2	261	1	6.7	6.7	070	2	7.7	7.7	114				
6.0 "	31	4.6	1.5	335	31	6.2	4.3	320	3	9.9	6.6	270	3	6.2	3.1	308					2	9.0	8.9	120				
7.2 "	31	5.5	1.7	311	30	7.9	6.0	313	1	5.1	5.1	125	2	6.2	0.3	012												
9.0 "	26	6.4	3.6	300	26	7.6	4.8	302					2	7.5	6.7	097												

Station	ASANSOL								BAGHDOGRA												BAIRAGARH			
	1730				2330				0530				1730				2330				0530			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.3	1.0	131	31	1.2	0.7	150	31	1.5	1.4	052	31	2.3	1.2	088	31	1.7	1.4	057	31	3.2	2.7	274
0.15 a. g.	31	4.8	2.5	131	30	5.1	3.0	156	24	4.0	3.4	070	28	3.5	2.1	083	25	3.7	2.4	065	27	7.2	5.9	278
0.3 a.m.s.l.	31	4.9	2.6	136	30	5.3	3.0	157	24	4.0	3.8	065	28	3.8	2.4	066	25	3.8	2.5	075				
0.6 "	31	6.3	2.9	141	30	6.6	3.3	156	24	4.9	4.1	093	28	4.0	2.9	096	25	3.8	2.5	091	27	6.4	5.2	275
0.9 "	31	6.9	2.7	149	29	6.4	2.7	164	22	5.3	4.5	091	27	4.2	3.4	104	23	3.7	2.8	089	23	8.1	6.0	288
1.5 "	27	7.6	3.9	140	23	6.7	2.2	137	18	4.7	4.3	100	23	5.0	4.5	109	22	5.1	4.5	091	9	6.0	1.9	334
2.1 "	24	8.1	4.4	130	17	7.1	3.3	143	14	6.0	5.0	085	15	5.8	5.5	102	20	6.2	5.6	103	7	4.3	2.7	049
3.0 "	17	7.8	4.8	115	10	5.9	4.9	136	11	5.3	4.4	095	7	6.3	6.2	110	12	6.0	5.7	091	5	4.3	3.7	034
3.6 "	15	7.9	5.3	107	6	6.0	4.6	118	9	5.7	4.7	090	5	5.9	5.7	116	3	4.8	4.8	105	3	5.7	4.7	072
4.5 "	8	6.7	4.1	082	4	5.7	5.2	102	5	7.6	5.6	098	1	9.3	9.3	090	1	6.7	6.7	105	1	8.7	8.7	090
5.4 "	7	7.7	4.9	288	3	5.0	4.4	098	3	4.1	2.1	100	1	10.3	10.3	090					1	11.8	11.8	095
6.0 "	5	9.6	9.0	092	2	4.9	4.6	072	2	4.9	4.4	116	1	6.7	6.7	090								
7.2 "	2	7.2	7.1	090	1	3.1	3.1	055	2	8.2	6.1	112												
9.0 "	1	10.3	10.3	110					2	9.5	7.3	090												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	BAIRAGARH								BAJPE								BAMRAULI											
	1730				2330				0530				1730				2330				0530*							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	4.3	2.9	281	31	3.1	2.5	263	31	2.2	1.5	260	31	4.2	3.5	288	31	1.9	1.3	273	31	2.2	0.6	063				
0.15 a.g. . .	27	6.0	5.1	270	27	6.7	5.5	275	25	6.6	5.5	266	27	7.5	6.8	279	25	6.0	5.2	271	29	5.9	0.7	083				
0.3 a.m.s.l. .									25	7.3	6.4	267	27	7.8	7.3	278	25	6.8	6.0	272	29	5.9	0.7	083				
0.6 „ . . .	27	6.0	4.9	272	27	6.2	5.1	271	24	9.3	8.5	273	24	9.8	9.1	286	25	8.3	7.6	281	29	7.1	2.0	086				
0.9 „ . . .	27	7.4	5.9	276	26	7.9	6.3	285	21	9.9	9.2	283	19	10.0	9.4	284	22	9.8	9.2	285	29	7.4	2.0	083				
1.5 „ . . .	22	8.9	6.6	277	19	6.7	4.9	285	16	11.1	10.6	286	7	9.0	8.6	298	15	9.5	8.9	285	29	7.5	2.9	086				
2.1 „ . . .	17	7.6	4.1	280	14	6.1	1.1	320	9	9.5	8.9	287	3	2.6	1.1	266	10	9.5	9.2	290	29	7.0	3.4	088				
3.0 „ . . .	12	6.5	2.7	310	10	3.8	0.9	052	2	5.9	5.9	140	3	3.2	2.6	151	4	6.0	5.7	268	29	7.1	3.5	080				
3.6 „ . . .	6	5.6	2.4	077	5	4.8	3.8	049	1	6.7	6.7	135	1	3.6	3.6	105	1	2.6	2.6	140	28	7.2	3.8	084				
4.5 „ . . .	4	5.9	6.0	077					1	6.7	6.7	170					1	4.1	4.1	045	28	6.8	3.9	97				
5.4 „ . . .	3	7.1	6.9	105																	28	7.5	4.3	096				
6.0 „ . . .	3	9.1	8.5	099																	28	8.1	3.3	085				
7.2 „ . . .	1	8.7	8.7	080																	27	8.2	5.5	093				
9.0 „ . . .	1	10.3	10.3	075																	23	8.7	7.6	097				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.1	0.3	020	31	3.2	0.8	077	31	1.6	0.1	184	31	4.9	4.7	267	31	5.1	4.9	264	31	4.8	4.6	264				
0.15 a.g. . .	25	4.8	2.0	086	31	6.1	1.2	049	25	6.3	2.4	091	11	8.5	8.1	258	31	8.0	7.6	260	21	7.9	7.8	258				
0.3 a.m.s.l. .	25	4.8	2.4	081	31	6.1	1.2	049	25	7.1	2.9	091																
0.6 „ . . .	25	5.3	2.6	095	31	6.6	1.2	050	25	7.9	3.4	092																
0.9 „ . . .	21	6.1	3.5	098	31	7.0	1.4	050	25	7.8	3.5	090																
1.5 „ . . .	16	7.8	5.3	102	31	6.9	1.6	074	19	7.3	4.2	097	11	13.1	12.9	271	31	9.6	9.2	266	19	11.5	11.2	273				
2.1 „ . . .	4	10.5	10.3	100	31	6.9	2.5	081	14	7.2	6.0	099	10	12.8	12.7	279	23	9.9	9.2	275	15	12.3	12.1	287				
3.0 „ . . .	1	12.9	12.9	100	31	7.2	3.7	090	8	7.2	6.5	109	5	9.5	8.0	277	9	10.5	8.8	274	11	9.7	9.0	292				
3.6 „ . . .	1	14.4	14.9	95	31	7.4	4.5	091	2	5.4	5.4	074	3	6.8	4.8	237	8	10.9	8.7	267	6	7.1	6.5	293				
4.5 „ . . .	1	10.3	10.3	110	31	7.6	4.5	093					1	6.2	6.2	130	4	8.0	2.8	249	1	6.2	6.2	265				
5.4 „ . . .					31	7.5	5.3	087					1	5.7	5.7	080	3	5.7	5.5	126								
6.0 „ . . .					31	6.9	4.9	092					1	5.1	5.1	060	3	6.7	6.5	115								
7.2 „ . . .					30	8.1	6.5	087					1	4.6	4.6	090	3	8.2	8.2	107								
9.0 „ . . .					23	9.0	7.8	091									1	9.3	9.3	120								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level.

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	BAREILLY								BEGUMPET												BHAGALPUR							
	0530				1730				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.4	1.0	090	31	1.5	0.4	102	31	5.4	5.3	272	31	4.4	3.7	275	31	4.7	4.1	266	31	2.2	1.2	105				
0.15 a.g.	31	4.6	2.9	100	30	3.2	0.6	135	27	9.1	8.9	270	30	7.5	6.8	275	27	8.2	7.1	263	26	4.1	2.4	113				
0.3 a.ms.l.	31	4.3	2.9	097	30	3.3	0.7	126													26	4.6	2.8	109				
0.6 "	31	5.8	3.1	113	30	3.9	0.7	132	27	6.0	5.8	269	30	5.8	5.1	273	27	5.5	4.5	260	25	5.5	3.9	107				
0.9 "	28	5.6	3.1	108	30	3.8	1.0	116	27	12.7	12.3	284	30	9.4	9.2	277	27	11.2	10.2	273	23	6.1	4.3	104				
1.5 "	24	6.6	4.2	102	27	4.4	0.8	106	26	14.4	13.7	290	29	11.9	11.5	279	26	13.9	13.6	280	21	6.7	5.0	103				
2.1 "	21	6.6	3.8	092	24	5.0	1.3	078	20	14.8	14.2	292	27	13.5	13.1	283	21	13.1	13.0	284	18	6.9	5.7	104				
3.0 "	15	6.0	3.9	096	23	6.2	2.9	090	7	9.2	8.4	283	20	14.7	14.1	289	8	8.2	7.5	275	17	6.9	5.8	099				
3.6 "	12	6.1	4.1	111	22	6.2	2.9	100	4	8.5	7.9	308	11	11.6	10.5	284	4	5.7	4.4	254	15	7.1	5.6	105				
4.5 "	10	5.9	4.0	095	19	5.0	3.0	059	2	4.1	1.1	334	3	5.5	4.4	253	2	4.6	3.2	234	11	7.4	6.3	108				
5.4 "	8	5.6	4.4	098	16	4.4	1.5	078	2	3.6	3.5	078									7	6.6	6.3	100				
6.0 "	7	4.4	3.3	073	15	4.6	1.5	082	2	4.1	4.0	085									5	6.5	6.4	090				
7.2 "	6	6.2	5.4	074	12	5.3	2.8	073													1	8.2	8.2	080				
9.0 "	4	5.3	4.3	082	8	4.8	3.2	052																				

Station	BHAGALPUR				BHUBANESHWAR								BHUJ															
	1730				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.1	1.2	102	31	2.1	1.0	234	31	3.7	2.9	211	31	2.5	1.5	214	31	3.8	3.6	236	31	5.9	5.5	235				
0.15 a.g.	31	4.6	3.2	110	28	6.0	2.6	237	29	7.7	5.5	210	26	6.6	4.2	219	31	7.5	7.2	244	28	9.1	8.9	239				
0.3 a.ms.l.	31	5.3	3.8	109	28	7.2	3.8	245	29	7.7	5.5	212	26	7.5	5.0	226	31	8.4	8.1	249	28	9.7	9.5	241				
0.6 "	31	6.1	4.4	112	26	7.7	4.3	255	29	7.5	4.7	220	26	8.2	5.4	235	30	10.0	9.8	253	28	9.8	9.5	245				
0.9 "	31	6.9	4.9	120	25	8.0	5.1	268	26	7.1	4.1	238	22	8.9	6.8	246	27	9.6	9.3	254	28	9.5	9.2	248				
1.5 "	29	7.5	6.2	123	20	8.1	6.3	281	17	7.3	4.6	264	21	9.3	6.4	264	13	5.4	3.9	258	15	6.4	5.9	256				
2.1 "	27	7.6	6.6	119	13	8.1	6.7	275	12	8.1	5.4	256	16	8.8	5.5	269	7	4.7	0.2	346	8	4.8	2.7	278				
3.0 "	24	9.0	7.9	113	11	6.8	5.8	265	9	7.8	5.0	278	8	7.2	6.1	276	6	4.4	4.1	094	3	4.5	1.6	333				
3.6 "	19	9.9	8.6	106	7	6.2	4.9	277	6	5.4	5.2	268	1	3.6	3.6	090	2	8.5	8.5	086	2	6.4	2.1	357				
4.5 "	15	9.2	8.2	100	4	4.3	2.1	257	2	4.1	3.9	266					1	9.8	9.8	060	1	1.5	1.5	230				
5.4 "	14	8.4	7.5	088	3	5.7	3.1	239	2	6.7	4.6	287																
6.0 "	12	8.4	7.3	080	2	2.8	2.3	122	1	5.1	5.1	020																
7.2 "	6	6.3	5.9	080																								
9.0 "	3	10.5	10.2	087																								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds at 9 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	BHUIJ				BIKANER												CHIKALTHANA							
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	4.0	3.9	232	31	2.2	1.6	230	31	2.3	1.4	200	31	2.5	2.1	205	31	4.2	4.2	269	31	5.9	5.8	085
0.15 a.g.	31	7.8	7.6	242	31	7.2	5.7	220	31	5.6	3.3	207	31	7.5	6.3	207	27	8.5	8.4	274	27	10.1	9.8	277
0.3 a.m.s.l.	31	8.4	8.2	242	31	5.1	4.0	227	31	4.8	2.6	201	31	5.8	4.8	201								
0.6 "	31	9.0	8.7	246	31	7.5	6.0	245	31	5.8	3.3	207	31	7.8	5.8	216								
0.9 "	30	7.8	7.3	245	30	6.4	4.3	243	31	5.5	2.8	209	31	6.6	4.5	216	27	10.1	10.1	277	27	10.6	10.2	282
1.5 "	17	3.5	2.1	227	30	4.6	1.4	132	31	5.3	1.2	173	30	4.5	1.1	102	13	12.3	12.0	278	24	11.8	11.4	281
2.1 "	11	3.8	1.0	107	29	4.3	2.2	091	22	5.1	1.9	097	29	4.9	2.9	055	9	9.3	9.2	272	15	12.4	12.0	251
3.0 "	10	3.8	3.0	065	22	5.0	3.9	070	19	5.4	3.8	037	26	5.6	3.8	048	6	7.4	7.0	276	4	6.4	5.7	263
3.6 "	6	6.0	4.7	063	14	6.2	5.1	072	16	6.0	4.2	026	13	5.7	4.2	036	1	5.1	5.1	285	3	7.6	6.4	290
4.5 "	3	5.8	4.9	065	7	5.7	4.4	053	12	7.1	4.9	013	3	7.4	4.9	045								
5.4 "					2	4.6	4.0	067	10	6.5	4.9	017	2	8.2	6.5	295								
6.0 "					2	7.2	2.8	167	9	6.8	4.3	030												
7.2 "					1	6.7	6.7	230	6	6.1	3.4	358												
9.0 "									3	4.1	2.3	296												

Station	CHIKALTHANA				COCHIN												DARJEELING							
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface .	31	5.1	5.1	269	31	0.8	0.4	059	31	3.4	3.0	301	31	1.4	0.8	335	31	0.7	0.4	184	31	0.5	0.2	241
0.15 a.g.	27	9.5	9.4	273	22	2.4	0.8	001	22	4.4	4.2	291	19	3.8	2.4	302	8	1.2	0.6	152				
0.3 a.m.s.l.					22	4.3	3.7	304	22	6.5	6.1	293	19	5.2	4.3	306								
0.6 "					22	7.2	6.7	300	22	8.6	8.3	299	19	7.6	7.2	300								
0.9 "	27	11.2	12.0	278	21	9.0	8.6	300	22	10.3	10.1	303	19	9.3	8.9	301								
1.5 "	21	12.6	12.1	281	20	9.7	9.5	311	22	10.6	10.4	305	19	11.1	10.8	303								
2.1 "	16	8.5	6.6	280	20	10.4	10.0	301	18	10.2	9.8	303	12	10.9	10.6	297								
3.0 "	9	6.8	5.4	287	10	10.0	9.3	292	14	9.0	8.4	298	7	8.4	6.8	291	7	4.1	4.0	106				
3.6 "	7	5.6	4.8	302	2	5.4	2.4	251	9	7.1	5.5	295	2	8.2	8.1	289	6	7.2	7.1	093				
4.5 "	1	6.7	6.7	270	1	10.8	10.8	155	4	7.6	2.6	316					6	8.9	8.4	092				
5.4 "									1	4.1	4.1	095					5	7.4	7.2	097				
6.0 "									1	4.6	4.6	105					5	6.9	6.0	100				
7.2 "									1	4.1	4.1	105					5	6.9	5.0	107				
9.0 "																	4	6.9	6.5	103				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana—10 Bhadra 9, 1881 Saka)

Station	DEHRA DUN								DUM DUM																			
	0530				1730				0530*				1130				1730*				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	0.8	0.4	325	31	0.9	0.1	270	31	1.8	0.4	118	31	2.9	1.6	149	31	2.3	1.9	169	31	2.8	2.0	165				
0.15 a. g. .	19	1.8	0.7	026	24	2.3	1.0	280	31	5.3	1.9	191	31	4.7	2.4	160	30	1.9	0.1	176	31	6.0	4.4	182				
0.3 a.m.s.l.									31	6.0	2.6	192	31	4.9	1.9	165	30	5.4	3.9	179	31	7.4	5.3	190				
0.6 " .									31	6.3	2.4	202	26	6.0	2.4	151	30	6.1	4.0	186	31	9.0	6.2	198				
0.9 " .	19	1.9	0.1	358	24	2.5	1.2	284	30	6.6	2.3	210	21	5.7	1.9	185	30	6.8	3.9	187	27	8.2	5.0	193				
1.5 " .	17	2.2	0.7	154	21	2.7	0.9	250	30	7.9	1.7	496	10	6.5	3.0	155	29	6.5	3.1	184	22	7.4	3.4	188				
2.1 " .	15	2.4	0.7	186	14	3.5	0.4	180	28	7.4	1.4	188	5	7.3	6.4	117	28	5.8	2.3	170	12	6.9	3.5	175				
3.0 " .	8	2.5	1.2	070	11	4.3	1.1	144	28	6.0	1.4	220	2	8.9	7.9	118	27	6.3	2.0	144	6	5.8	4.4	169				
3.6 " .	6	1.9	1.6	131	10	5.1	1.2	136	28	6.3	2.0	150	1	7.2	7.2	105	27	6.2	3.0	124	1	5.1	5.1	145				
4.5 " .	5	4.6	3.5	161	4	3.6	2.3	125	26	4.8	2.4	138					27	6.0	3.3	096								
5.4 " .	4	3.9	3.1	170	2	2.3	1.3	355	26	7.6	3.2	145					27	7.2	3.9	093								
6.0 " .	4	4.6	3.1	191	1	5.7	5.7	075	26	7.4	4.9	127					27	8.2	5.2	092								
7.2 " .	2	5.9	5.8	239					25	8.5	5.1	114					27	8.6	6.1	085								
9.0 " .									20	10.2	8.3	104					24	9.2	6.9	090								

Station	GADAG												GANNAVARAM															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	4.8	4.7	270	31	6.4	6.4	269	31	5.0	4.9	266	31	3.6	3.1	268	31	4.1	3.5	289	31	2.3	1.4	258				
0.15 a. g. .	31	10.8	10.7	256	31	11.7	11.5	261	31	10.4	10.3	255	25	7.1	6.4	259	30	5.8	5.1	281	27	5.8	4.3	248				
0.3 a.m.s.l.													25	9.3	8.5	265	30	6.5	6.1	279	27	7.1	5.8	258				
0.6 " .													25	12.4	11.6	268	30	8.7	8.3	280	27	8.5	7.8	267				
0.9 " .	30	12.3	12.0	263	31	12.6	12.5	264	31	11.9	11.8	265	25	14.6	13.1	278	30	10.7	10.2	280	27	9.6	9.2	271				
1.5 " .	14	13.3	13.1	266	19	12.8	12.7	276	22	13.3	13.0	280	24	13.0	12.5	286	29	12.7	12.4	283	25	12.0	11.8	279				
2.1 " .	9	10.2	8.7	270	4	9.1	8.2	279	11	11.6	10.5	286	23	11.2	11.1	283	29	13.3	13.4	284	21	13.5	13.2	283				
3.0 " .	4	5.3	5.0	185	1	4.6	4.6	195	5	7.6	4.9	283	15	10.1	9.9	275	23	12.6	12.0	282	12	11.0	10.2	282				
3.6 " .	3	4.3	4.2	190	1	4.6	4.6	210	4	6.0	3.2	256	6	9.7	9.5	272	18	12.8	12.2	278	4	6.4	6.4	283				
4.5 " .	1	2.1	2.1	260	1	4.6	4.6	135	1	7.2	2.2	345	2	11.8	11.8	262	12	1.7	10.2	287								
5.4 " .					1	5.1	5.1	155					1	7.2	7.2	255	7	9.3	8.2	284								
6.0 " .					1	7.2	7.2	100									4	10.1	7.1	278								
7.2 " .					1	8.7	8.7	090									2	8.5	7.4	254								
9.0 " .																	1	7.7	7.7	110								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1938 Saka)

Station	GAUHATI												GAYA															
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.5	0.5	075	31	1.9	1.4	031	31	1.9	0.8	234	31	1.0	0.7	204	31	1.5	0.1	085	31	3.2	1.3	066				
0.15 a. g.	31	2.7	1.0	068	30	3.7	3.2	033	31	2.7	1.3	238	28	2.6	1.5	220	31	4.3	0.8	112	27	5.1	2.7	075				
0.3 a.m.s.l.	31	2.7	0.9	063	30	3.3	2.9	051	31	2.6	0.9	242	28	2.8	1.2	251	31	4.8	1.0	140	27	5.1	2.6	081				
0.6 "	31	2.8	1.2	064	30	3.4	3.1	067	31	2.8	1.0	050	28	3.1	0.7	313	31	6.6	2.0	133	27	5.5	3.0	103				
0.9 "	31	2.9	1.2	072	30	3.8	3.3	092	31	3.1	1.3	068	27	3.0	1.4	084	27	6.8	3.0	106	26	6.0	3.3	117				
1.5 "	31	3.7	1.9	108	28	4.7	3.9	117	31	3.3	1.9	140	23	2.7	1.4	135	22	7.2	4.9	107	23	8.3	5.9	128				
2.1 "	31	4.4	2.6	123	25	5.8	4.9	116	31	4.1	3.1	153	18	3.7	2.7	149	18	7.2	4.9	096	21	8.9	7.5	126				
3.0 "	31	4.9	3.0	124	20	5.5	4.7	108	31	5.1	4.1	137	11	5.5	4.8	109	14	5.9	5.0	104	16	9.7	8.2	115				
3.6 "	31	5.3	3.2	127	13	6.8	5.9	108	31	6.1	4.7	125	2	8.0	7.9	089	11	6.4	5.8	102	12	7.1	5.4	101				
4.5 "	30	6.4	4.3	137	10	6.8	5.5	110	31	6.8	5.0	110	1	12.9	12.9	095	7	8.2	5.0	103	7	7.4	7.3	098				
5.4 "	30	6.8	4.8	125	4	5.4	4.0	108	31	5.8	4.5	105	1	9.8	9.8	090	5	9.2	8.4	120	4	8.6	8.0	093				
6.0 "	30	7.2	5.0	126	1	3.1	3.1	140	31	6.2	4.7	102	1	9.8	9.8	090	5	10.9	10.0	118	3	6.5	5.9	081				
7.2 "	30	7.2	4.6	107					31	6.5	5.0	094					3	7.2	7.0	089	3	7.1	6.9	078				
9.0 "	26	6.9	5.6	094					29	6.9	5.7	079					2	8.7	8.7	099	3	.6	8.0	077				

Station	GAYA				GOPALPUR								GORAKHPUR															
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.0	0.4	128	31	2.5	2.2	221	31	7.1	7.3	207	31	3.7	3.3	211	31	1.9	1.2	065	31	1.7	0.8	090				
0.15 a. g.	28	5.6	1.5	129	31	6.9	5.5	237	31	9.9	9.0	209	29	6.1	5.3	227	25	5.7	5.1	089	30	4.0	2.2	090				
0.3 a.m.s.l.	28	6.0	1.4	127	31	6.5	4.9	250	31	8.3	7.1	222	29	5.8	5.1	238	25	7.0	6.4	101	30	4.5	2.3	092				
0.6 "	28	7.4	2.0	127	31	6.3	4.9	269	31	6.1	4.7	240	29	5.9	4.8	248	25	6.4	7.5	110	30	5.8	3.8	104				
0.9 "	26	7.2	2.7	142	31	7.1	5.8	282	30	5.9	4.4	266	29	6.7	5.2	258	24	8.7	8.1	108	30	6.5	4.9	110				
1.5 "	23	7.2	3.5	126	27	9.7	8.6	290	26	7.6	6.5	283	29	7.4	5.7	275	20	9.2	8.4	105	28	7.5	6.4	115				
2.1 "	18	6.4	4.4	117	23	8.1	7.5	287	22	8.4	7.0	280	20	6.7	5.3	269	19	9.9	9.1	103	23	7.9	6.5	110				
3.0 "	10	6.2	4.9	118	13	6.7	6.2	267	10	8.1	7.7	269	12	5.8	4.5	238	12	10.1	7.9	095	17	8.5	8.3	109				
3.6 "	2	5.1	3.4	141					7	6.0	4.5	277	5	4.0	2.9	153	8	7.9	7.7	107	15	8.4	8.1	107				
4.5 "					5	5.3	4.3	257	5	4.8	2.9	289	2	5.7	3.1	091	7	6.8	6.7	107	13	8.2	7.9	105				
5.4 "					4	3.9	2.4	249	3	4.5	3.9	260					4	4.4	4.4	093	9	7.8	7.4	102				
6.0 "					2	5.7	1.0	273	3	4.5	2.3	253					2	3.9	3.9	067	7	9.3	8.2	100				
7.2 "					1	3.6	3.6	275	1	4.1	4.1	265					2	6.7	6.6	071	6	9.3	8.3	110				
9.0 "					1	3.1	3.1	340									1	4.6	4.6	090	4	9.9	7.8	114				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR								JHARSUGUDA							
	0530				1730				2330				0530				1730				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.0	0.9	302	31	2.1	0.6	287	31	2.2	0.7	278	31	1.4	0.2	175	31	2.5	0.8	150	31	2.3	1.0	220				
0.15 a.g.	28	6.4	2.9	305	29	4.4	1.2	254	30	6.0	1.0	238	29	3.7	0.8	190	29	4.4	1.6	152	24	5.8	2.1	238				
0.3 a.m.s.l.													29	3.9	1.0	199	29	4.4	1.6	160	24	5.0	1.8	236				
0.6 "	27	7.1	3.2	300	29	4.6	1.3	277	30	6.7	2.0	280	30	5.9	1.0	232	29	6.2	2.1	168	22	6.9	2.2	269				
0.9 "	27	7.9	3.0	292	29	5.3	1.1	270	30	7.7	1.5	282	27	6.3	1.9	290	29	6.9	2.2	172	15	6.8	0.8	036				
1.5 "	22	6.1	1.2	315	28	5.6	0.3	344	27	7.6	0.6	015	23	6.6	0.8	269	25	6.9	2.1	197	10	7.1	2.2	059				
2.1 "	16	4.8	2.3	077	17	4.8	3.5	078	21	5.7	2.6	084	21	6.1	0.6	182	21	6.8	2.1	196	7	8.0	2.4	069				
3.0 "	10	5.4	1.6	036	8	6.0	4.4	069	17	6.8	4.5	070	12	4.1	1.2	142	12	5.0	1.2	173	1	10.3	10.3	095				
3.6 "	5	5.5	2.6	026	2	7.5	3.1	029	12	7.2	6.9	075	8	4.6	4.2	092	5	4.3	3.9	116	1	10.3	10.3	085				
4.5 "	3	6.0	4.4	337					6	9.0	8.2	090	5	3.0	4.8	103	2	6.2	6.0	118								
5.4 "	1	2.1	2.1	145					3	7.1	7.0	086	3	5.3	5.1	088	2	7.7	7.7	109								
6.0 "	1	2.1	2.1	155					3	7.2	6.8	072	3	6.2	5.9	089	1	8.7	8.7	115								
7.2 "	1	3.6	3.6	155																								
9.0 "																												

Station	JHARSUGUDA								JODHPUR																			
	1730				2330				0530*				1130				1730*				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.3	0.5	228	31	2.3	1.0	212	30	2.6	2.4	240	31	3.8	2.9	224	31	3.7	2.8	235	31	2.7	2.4	220				
0.15 a.g.	27	5.1	1.8	229	21	5.9	1.9	208	30	3.5	3.1	240	30	5.8	4.7	232	31	4.0	3.0	233	30	7.3	6.4	220				
0.3 a.m.s.l.	27	4.5	1.6	235	21	4.7	1.4	187	30	3.3	3.0	240	30	5.6	4.1	236	31	4.0	2.9	235	30	5.9	5.1	224				
0.6 "	26	6.5	1.6	238	21	7.2	2.1	226	30	5.1	4.1	240	29	6.0	4.7	233	31	4.9	3.7	230	30	8.1	7.2	232				
0.9 "	24	7.6	2.0	267	19	8.0	1.7	229	30	6.7	5.5	240	26	6.0	4.5	235	31	5.5	3.4	230	30	7.5	6.2	236				
1.5 "	19	7.8	2.7	269	16	7.9	1.7	280	29	5.7	1.9	230	10	4.5	2.0	146	31	5.7	2.0	220	26	5.3	1.6	150				
2.1 "	14	8.0	4.0	075	12	7.7	0.5	127	29	5.3	1.5	054	5	5.1	3.6	085	29	5.1	0.6	024	21	5.6	3.5	086				
3.0 "	8	6.9	0.4	238	2	8.7	1.0	285	29	5.7	3.2	045	2	7.5	7.5	060	29	6.1	3.9	022	15	6.2	5.6	171				
3.6 "	5	6.1	2.4	107	2	10.8	1.1	080	29	6.1	4.3	040	1	7.7	7.7	070	29	6.4	4.7	023	3	10.8	9.3	085				
4.5 "	4	4.5	2.1	070					29	7.8	6.0	040	1	6.7	6.7	070	29	6.9	5.1	024								
5.4 "	1	1.0	1.0	175					29	8.3	6.2	050					27	7.4	4.9	023								
6.0 "									28	8.0	6.4	060					26	7.3	4.7	032								
7.2 "									26	7.3	5.0	070					23	6.8	4.8	056								
9.0 "									22	8.1	6.9	016					17	7.8	6.9	070								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	MADRAS												MINICOY															
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	4.1	3.2	250	31	5.4	4.3	273	31	4.2	2.2	175	31	3.7	2.7	208	31	4.6	4.1	289	31	4.4	4.0	285				
0.15 a.g.	31	5.3	3.0	240	31	6.6	5.7	265	31	4.6	2.4	191	31	7.4	5.6	215	31	7.4	6.7	281	30	8.2	7.7	282				
0.3 a.m.s.l.	31	6.5	5.7	255	31	6.8	6.4	263	31	5.4	2.6	209	31	8.3	6.4	231	31	7.6	6.9	283	30	8.5	8.0	283				
0.6 "	31	9.1	8.2	266	31	7.4	7.0	269	31	5.7	4.2	242	31	9.3	7.3	242	31	9.0	8.3	288	30	9.6	9.1	289				
0.9 "	31	11.2	10.2	276	31	8.1	7.8	273	31	6.2	5.5	264	31	9.4	7.9	250	31	10.3	9.9	292	30	11.0	10.4	292				
1.5 "	30	10.8	10.0	285	31	10.2	9.5	283	31	8.4	8.0	272	31	9.0	8.0	265	30	10.4	10.0	295	29	12.5	12.0	297				
2.1 "	30	9.9	9.2	282	30	10.8	10.0	280	31	10.4	9.9	278	29	8.9	8.1	274	25	9.2	8.7	295	24	12.2	11.7	293				
3.0 "	31	10.2	9.5	274	22	9.9	9.3	268	31	11.7	11.0	279	18	8.3	7.5	273	11	8.0	7.4	298	21	10.1	9.8	288				
3.6 "	31	9.9	9.2	271	21	10.0	9.2	269	31	11.3	10.4	279	3	7.9	5.8	241	1	6.7	6.7	265	18	9.1	8.6	288				
4.5 "	31	8.9	7.9	270	15	10.0	8.9	265	31	9.9	8.7	279					1	5.1	5.1	250	13	8.3	7.6	283				
5.4 "	31	7.8	6.1	265	12	8.0	6.2	263	31	8.4	6.8	273									9	7.2	6.5	285				
6.0 "	30	7.2	4.9	260	10	7.6	5.3	261	31	7.3	5.4	262									7	4.3	3.1	262				
7.2 "	29	7.8	2.4	200	4	5.3	0.9	095	31	6.2	2.6	253									4	4.5	2.0	231				
9.0 "	27	10.2	8.9	088	1	8.7	8.7	095	29	8.9	6.7	112									1	4.6	4.6	085				

Station	MINICOY.				MOHANBARI								NAGPUR															
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.9	3.5	290	17	0.5	0.3	010	31	0.3	0.3	052	31	0.1	0.1	027	31	2.4	2.1	270	31	4.7	3.8	265				
0.15 a.g.	29	6.0	5.6	286	20	2.4	1.1	067	31	2.3	0.5	065	30	2.8	1.6	050	29	7.4	6.2	279	29	6.9	5.5	280				
0.3 a.m.s.l.	29	6.4	6.0	285	20	2.4	1.1	077	31	2.5	0.5	080	30	2.9	1.6	058												
0.6 "	29	8.0	7.5	287	20	2.4	0.4	020	31	2.5	0.6	107	30	2.4	1.4	068	29	8.7	7.4	289	29	6.2	4.9	287				
0.9 "	29	9.5	8.9	292	19	2.9	0.7	032	30	2.4	0.2	127	30	2.2	0.9	091	29	10.4	8.6	297	27	6.1	4.7	297				
1.5 "	28	10.4	10.0	297	14	2.1	0.9	064	28	2.4	1.3	214	30	2.8	1.2	218	26	9.7	7.8	303	12	9.0	5.7	309				
2.1 "	27	9.2	8.9	300	12	1.7	0.5	122	28	3.2	2.6	206	26	3.1	2.0	220	22	8.7	6.4	297	5	8.0	3.5	295				
3.0 "	18	6.5	6.3	297	8	2.4	0.5	124	28	3.1	2.1	202	25	3.2	2.3	199	19	7.9	4.9	313	1	12.9	12.9	270				
3.6 "	12	6.2	5.8	298	6	2.3	2.0	132	27	3.6	1.6	178	19	3.0	2.0	181	17	7.3	3.2	308	1	7.7	7.7	275				
4.5 "	4	4.1	3.8	294	5	5.3	5.0	116	18	4.3	3.0	107	15	5.4	3.8	136	17	6.2	1.5	359								
5.4 "					5	6.3	5.7	098	16	5.6	3.1	102	14	5.3	2.3	137	15	6.0	2.2	067								
6.0 "					5	6.6	5.4	104	12	5.5	1.9	128	8	6.4	5.2	112	15	5.9	2.3	090								
7.2 "					3	9.4	9.1	101	5	5.3	3.2	112	5	6.3	2.9	167	14	8.0	6.3	090								
9.0 "					1	8.7	8.7	110	3	5.3	4.3	098					14	9.7	9.3	085								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	NAGPUR								NANPARA								NEW DELHI							
	1730*				2330				0530				1730				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	4.4	3.8	268	31	2.5	2.0	262	31	1.4	1.1	095	31	1.5	0.9	088	31	1.1	0.6	250	31	2.4	0.3	288
0.15 a.g.	30	7.1	6.3	276	31	6.2	5.3	282	30	5.0	4.1	107	29	3.5	2.0	110	31	6.0	1.3	243	31	3.9	0.2	341
0.3 a.m.s.l.									30	5.3	4.4	111	29	3.5	2.0	111	31	5.8	1.4	250	31	3.8	0.3	026
0.6 "	30	7.2	6.4	281	31	7.4	6.7	295	30	7.2	6.6	116	29	4.3	2.8	123	31	6.3	1.6	257	31	4.5	0.6	013
0.9 "	30	8.1	7.2	287	31	8.6	7.8	302	28	7.5	7.2	116	29	4.5	3.2	124	31	6.8	1.6	285	30	4.8	1.1	042
1.5 "	29	12.4	7.4	290	30	8.0	6.6	297	21	7.7	7.3	113	27	6.1	5.0	112	31	6.5	1.5	334	25	6.3	2.6	085
2.1 "	25	8.3	6.0	289	20	8.0	6.5	293	19	8.1	7.7	109	25	6.4	5.2	108	31	6.2	2.0	024	18	5.7	3.3	099
3.0 "	20	8.7	6.1	290	7	6.9	5.3	299	13	6.1	5.3	107	20	6.6	5.9	110	31	6.3	3.1	042	10	5.1	4.1	106
3.6 "	17	8.3	4.9	309	3	5.0	4.4	017	12	6.5	5.3	108	17	6.0	5.3	114	31	5.8	2.8	061	9	5.2	4.5	100
4.5 "	17	7.4	3.0	337	1	2.6	2.6	075	5	5.3	3.6	111	15	6.9	5.6	103	31	5.5	2.7	067	7	5.5	4.6	095
5.4 "	17	7.4	2.3	066	1	5.1	5.1	085	5	4.8	3.0	113	9	7.5	5.3	102	31	5.4	2.4	081	7	4.4	4.0	094
6.0 "	15	8.3	3.4	079					3	5.7	5.4	109	7	8.0	5.3	114	30	5.6	2.0	080	7	5.0	4.3	097
7.2 "	15	8.6	5.8	077					3	7.2	7.2	113	4	8.1	7.7	094	30	6.2	3.0	102	3	7.1	2.3	120
9.0 "	12	11.2	10.3	080					1	6.7	6.7	130	1	7.7	7.7	095	29	5.6	2.7	100	2	7.7	7.7	113

Station	NEW DELHI								POONA								PORT BLAIR							
	1730*				2330				0530				1730				2330				0530*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.0	0.5	242	31	1.3	0.5	205	31	2.1	1.7	264	31	3.3	3.1	267	31	2.2	2.1	261	31	3.5	3.4	240
0.15 a.g.	31	4.9	0.1	102	31	5.3	1.8	179	31	7.5	7.4	263	31	8.7	8.6	264	30	7.1	6.9	260	31	6.7	6.3	238
0.3 a.m.s.l.	31	4.1	0.3	123	31	4.6	1.6	170													31	7.3	6.8	238
0.6 "	31	4.2	0.3	350	31	5.3	1.8	178	31	3.7	3.7	263	31	4.9	4.8	266	30	3.7	3.7	261	31	8.7	9.3	240
0.9 "	31	4.1	0.5	045	31	5.0	1.4	188	31	9.0	8.8	264	31	10.0	9.9	265	30	8.6	8.5	264	31	9.1	8.7	244
1.5 "	31	4.9	0.8	007	27	4.7	0.4	047	16	13.6	13.4	270	20	12.9	12.8	270	18	11.9	11.8	269	31	8.5	7.9	250
2.1 "	31	5.1	1.0	015	27	5.5	1.7	019	5	9.3	9.0	276	14	12.3	12.2	274	7	10.3	10.2	278	30	7.7	6.9	253
3.0 "	31	5.7	1.9	015	18	5.6	3.6	085	3	7.6	7.3	274	3	6.3	6.3	277	2	4.6	4.6	238	28	7.8	7.3	258
3.6 "	31	5.8	2.5	026	11	4.4	3.4	090	2	3.9	3.7	232	2	3.6	3.6	270	2	4.1	4.1	249	25	7.0	6.3	265
4.5 "	31	5.2	2.4	045	6	4.6	4.0	070	2	4.1	4.1	205	1	2.6	2.6	315					22	6.6	6.1	257
5.4 "	31	5.1	2.3	057	2	3.9	3.7	077													16	7.1	5.4	250
6.0 "	31	5.1	2.1	048	2	4.6	4.6	065													16	5.5	3.7	251
7.2 "	30	5.6	2.2	038																	16	4.4	2.6	165
9.0 "	30	6.0	1.9	069																	11	10.9	8.7	074

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	PORT BLAIR												RAIPUR											
	1130				1730*				2330				0530				1730				2330			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	5.3	5.1	234	31	4.5	4.3	242	31	3.3	3.2	239	31	2.5	1.6	238	31	2.6	1.8	252	31	2.4	2.0	235
0.15 a. g. . .	30	7.6	7.4	238	31	7.0	6.8	240	31	4.6	4.4	236	24	7.4	4.7	252	28	7.2	4.5	254	26	7.7	6.1	245
0.3 a. m. s. l. . .	30	8.1	7.9	239	31	7.3	7.0	240	31	4.8	4.6	236												
0.6 " . . .	30	7.9	7.7	241	31	9.0	8.6	242	31	5.3	5.1	241	24	8.2	5.0	265	28	7.7	4.6	263	26	8.6	6.6	261
0.9 " . . .	29	8.3	7.9	243	31	9.5	9.1	247	29	5.0	4.9	246	23	8.9	5.8	281	28	8.4	5.3	355	26	8.9	5.9	263
1.5 " . . .	21	9.2	8.9	249	29	9.1	8.7	250	25	4.7	4.4	251	18	7.8	4.9	311	24	8.5	4.3	289	24	8.5	4.8	299
2.1 " . . .	20	8.5	8.1	249	28	7.7	7.4	250	22	4.0	3.6	256	11	7.7	3.5	319	16	7.0	1.7	302	17	8.5	5.8	291
3.0 " . . .	11	7.7	6.8	246	23	6.9	6.6	253	20	3.9	3.3	255	4	7.4	3.0	067	9	6.2	0.5	042	7	5.5	1.5	241
3.6 " . . .	10	7.2	6.0	247	19	6.9	6.4	248	15	3.9	2.9	255	2	5.4	1.4	169	6	5.0	1.5	067	2	5.7	3.5	276
4.5 " . . .	6	5.1	4.0	248	18	5.9	5.1	253	5	2.8	1.6	338	1	5.1	5.1	290	4	6.5	3.1	086	1	3.1	3.1	115
5.4 " . . .	4	6.0	4.2	248	15	6.1	4.8	277									2	7.2	2.6	119				
6.0 " . . .	3	6.2	4.5	266	15	5.3	3.4	270									1	3.6	3.6	216				
7.2 " . . .	1	7.7	7.7	265	14	4.8	3.1	222																
9.0 " . . .					8	6.2	5.4	061																

Station	RAXAUL								SANTA CRUZ																			
	0530				1730				0530*				1130				1730*				2330							
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.4	0.3	075	31	1.0	0.7	076	31	4.8	4.6	250	31	4.6	4.0	249	31	5.9	5.6	253	30	4.4	4.1	256				
0.15 a. g. . .	29	5.8	5.3	063	27	4.6	3.0	090	31	8.5	8.0	236	27	8.4	8.0	239	31	8.9	8.3	241	28	8.1	7.8	246				
0.3 a. m. s. l. . .	29 ²	6.2	5.7	100	27	4.6	2.9	094	31	8.8	8.4	238	26	9.8	9.4	245	31	9.4	8.9	242	28	9.3	9.0	248				
0.6 " . . .	29	7.4	6.7	112	27	4.9	3.8	105	31	9.4	9.0	240	24	11.2	10.8	250	31	10.2	9.8	242	26	9.9	9.5	252				
0.9 " . . .	27	7.7	7.3	107	26	5.9	4.8	113	31	9.7	9.4	242	16	11.1	10.5	256	30	9.8	9.4	243	16	9.3	8.9	262				
1.5 " . . .	25	7.6	5.3	104	25	7.5	6.5	115	31	9.9	9.3	243	6	10.5	10.1	252	30	10.1	9.8	244	10	9.2	8.5	254				
2.1 " . . .	20	9.2	5.3	102	24	7.8	6.8	108	31	9.7	9.2	247	2	7.7	7.3	243	30	9.5	9.2	250	4	7.9	7.5	257				
3.0 " . . .	12	8.0	7.8	096	20	8.3	7.4	110	31	9.7	9.3	263					30	10.0	9.4	260	2	5.7	5.6	254				
3.6 " . . .	9	7.6	6.5	101	14	8.0	7.1	112	31	7.9	7.2	272					30	9.3	8.9	266	1	7.7	7.7	250				
4.5 " . . .	7	7.7	6.6	105	9	7.9	6.6	115	31	7.3	5.3	286					30	7.6	6.7	284								
5.4 " . . .	6	6.6	6.0	100	5	5.6	4.4	117	31	5.9	3.8	317					30	6.0	4.7	296								
6.0 " . . .	4	1.4	1.4	091	3	7.9	4.9	109	31	5.0	2.9	339					29	5.5	3.5	322								
7.2 " . . .	3	3.6	3.5	085	1	5.7	5.7	070	31	4.9	2.3	026					29	4.6	2.8	018								
9.0 " . . .	1	6.2	6.2	080	1	10.8	10.8	055	30	8.2	7.5	062					24	8.6	7.7	060								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.8	0.4	073	31	0.6	0.4	072	31	0.6	0.4	110	31	7.7	7.6	269	31	9.3	8.6	268	31	9.0	8.6	269				
0.15 a. g.	30	3.8	1.5	097	31	3.0	1.2	080	23	3.5	0.9	168	31	11.0	10.8	269	31	10.3	9.4	270	28	10.7	10.1	267				
0.3 a. m.s. l.	30	4.0	1.4	110	31	3.1	1.4	069	23	3.7	1.1	168	31	12.0	11.9	271	31	10.6	9.5	269	28	11.4	10.9	268				
0.6 "	30	4.0	1.2	166	31	2.9	1.0	082	23	3.2	1.0	173	31	14.4	14.3	273	31	10.1	9.4	268	28	13.7	13.5	269				
0.9 "	29	4.1	1.6	181	31	3.0	0.9	145	23	2.8	0.8	174	31	12.7	12.6	274	30	9.8	9.1	266	28	12.7	12.1	265				
1.5 "	28	3.3	1.3	183	31	4.1	2.2	188	23	3.2	1.3	191	31	10.4	9.8	266	28	9.7	8.8	268	28	9.5	9.4	281				
2.1 "	24	3.6	1.0	152	31	4.7	2.6	178	23	3.3	1.3	180	29	8.2	7.6	271	29	10.0	9.0	266	28	8.3	7.4	281				
3.0 "	19	4.2	1.3	130	28	4.4	2.3	155	20	3.8	2.4	129	26	7.1	6.0	268	22	9.3	8.7	278	25	7.7	6.6	280				
"	15	4.7	2.9	117	25	5.0	2.7	145	15	5.6	4.6	117	15	7.1	5.2	248	19	8.0	7.4	284	6	8.1	5.1	254				
4.5 "	12	4.8	2.8	135	24	5.5	3.2	123	9	6.9	6.1	108	9	6.3	3.6	235	16	8.1	7.1	279								
5.4 "	11	5.5	3.7	112	22	6.0	3.8	123	4	6.9	5.6	130	5	6.9	3.2	241	9	6.8	5.5	271								
6.0 "	7	5.0	4.2	126	20	5.9	4.1	115	1	10.3	10.3	110	3	4.5	2.3	256	6	4.0	2.7	279								
7.2 "	4	4.1	2.4	080	15	5.5	4.6	105					1	9.8	9.8	105	4	5.5	3.3	166								
9.0 "					10	6.7	5.6	101																				

Station	TRIVANDRUM												UDAIPUR															
	0530*				1130				1730*				2330				0530			1730								
Time in I. S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.2	3.0	333	31	3.5	3.1	309	31	6.4	6.0	311	31	3.3	3.1	344	31	0.8	0.7	267	31	1.6	1.1	250				
0.15 a. g.	31	4.7	4.5	328	30	7.2	6.5	303	31	6.9	6.5	311	30	8.3	8.0	328	30	3.8	2.9	271	29	4.7	3.4	246				
0.3 a.m.s. l.	31	5.8	5.6	324	30	7.7	7.3	303	31	7.6	7.2	311	30	9.9	9.5	322												
0.6 "	31	8.5	8.2	316	30	9.3	8.9	302	31	9.3	9.2	310	30	12.8	12.4	315												
0.9 "	31	11.1	10.7	307	23	11.3	10.9	305	31	11.0	10.8	308	30	13.1	12.7	312	30	4.7	3.3	276	29	5.0	3.5	255				
1.5 "	31	12.8	12.3	302	6	11.2	10.3	309	31	12.0	11.7	306	26	13.4	13.0	309	13	4.9	2.4	020	21	6.0	3.2	262				
2.1 "	31	12.3	11.7	299	3	5.7	5.1	321	31	11.4	10.8	300	17	12.5	11.7	299	10	5.1	3.8	070	12	5.3	0.8	342				
3.0 "	31	10.2	9.3	286	2	2.1	0.5	217	31	10.0	8.9	287	5	9.3	7.5	280	8	6.6	6.0	088	8	4.4	3.0	047				
3.6 "	31	8.9	7.5	281					31	8.8	7.6	281	2	4.9	3.0	275	3	8.1	8.0	085	5	6.5	5.9	055				
4.5 "	31	6.8	4.9	275					31	6.8	5.1	277	1	5.1	5.1	100	1	4.6	4.6	106	3	7.9	7.5	043				
5.4 "	31	5.1	2.5	278					30	5.2	2.4	267									1	8.2	8.2	080				
6.0 "	31	5.1	1.2	184					30	4.6	0.9	238									1	10.3	10.3	075				
7.2 "	31	6.0	2.5	074					31	5.2	2.2	085									1	10.8	10.8	085				
9.0 "	29	11.2	9.8	095					29	11.0	9.9	097									1	11.8	11.8	090				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Station	UDAIPUR				VENGURLA								VERAVAL															
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.9	0.8	243	31	2.5	2.2	266	31	2.6	2.3	270	31	2.0	1.7	259	31	7.7	7.4	260	31	6.8	6.2	253				
0.15 a. g.	31	3.6	2.8	249	31	7.4	7.1	265	30	7.6	7.5	274	31	7.3	7.0	259	31	9.6	9.5	265	31	9.2	8.7	257				
0.3 a.m.s. l.					31	8.3	8.0	274	30	9.3	9.1	276	31	8.4	8.2	272	31	9.7	9.5	263	31	10.6	10.1	261				
0.6 "					31	10.0	9.6	276	30	12.0	11.8	275	31	10.0	9.7	274	31	9.8	9.6	262	30	11.4	10.9	260				
0.9 "	31	4.5	4.3	257	10	10.2	10.0	284	22	13.3	13.1	278	19	9.8	5.9	280	31	10.1	9.9	263	17	10.9	10.5	267				
1.5 "	21	5.0	1.2	270	8	8.9	8.8	279	10	8.5	8.3	291	8	8.0	8.0	283	31	9.7	9.5	262	9	9.5	9.3	264				
2.1 "	16	4.9	3.8	069	1	8.7	8.7	275	5	5.8	5.6	285	5	8.0	7.8	280	31	9.0	8.3	274	4	7.1	6.7	265				
3.0 "	13	6.9	6.4	065	1	7.7	7.7	280	3	6.8	5.8	267	4	6.0	5.7	279	31	6.5	4.6	299	2	4.4	0.8	196				
3.6 "	9	8.7	7.9	047					1	5.7	5.7	195	2	2.8	1.9	239	31	5.6	3.0	325								
4.5 "	6	9.3	8.2	063					1	3.6	3.6	145	1	2.6	2.6	340	29	5.8	3.8	020								
5.4 "	1	9.8	9.8	095					1	5.1	5.1	120					29	5.5	4.1	032								
6.0 "									1	6.7	6.7	100					30	4.6	3.9	058								
7.2 "									1	5.7	5.7	090					31	5.7	4.8	058								
9.0 "																	24	10.3	10.1	084								

Station	VERAVAL				VISAKHAPATNAM																			
	1730*				2330				0530				1730				2330							
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	7.6	7.4	264	31	6.9	6.3	255	31	2.1	2.1	228	31	4.6	4.5	227	31	3.2	3.2	225				
0.15 a. g.	31	10.1	9.7	265	31	7.7	7.5	250	25	5.2	5.0	238	30	6.0	5.8	230	29	5.2	5.1	239				
0.3 a.m.s. l.	31	10.3	9.9	264	31	9.1	8.9	254	25	6.6	6.4	248	30	6.4	6.2	238	29	6.3	6.0	250				
0.6 "	31	10.2	10.0	265	31	10.3	9.8	255	24	7.8	7.1	255	30	7.3	7.3	253	29	7.5	6.9	261				
0.9 "	31	10.5	10.1	265	28	10.3	10.1	255	23	7.8	7.4	271	30	7.4	7.1	268	28	7.8	7.2	275				
1.5 "	31	9.0	8.7	266	15	8.9	8.5	261	20	10.7	10.0	280	28	8.5	7.7	283	27	9.4	8.7	278				
2.1 "	31	8.9	8.4	278	6	6.4	6.1	274	14	10.4	9.6	287	23	8.7	7.7	284	23	8.4	7.9	280				
3.0 "	31	7.3	6.5	292	5	6.0	5.6	279	8	9.1	8.5	280	16	9.4	9.2	272	5	5.5	4.9	278				
3.6 "	31	6.1	5.1	302	3	2.1	1.2	057	3	7.1	6.6	287	7	9.3	8.9	278	1	6.7	6.7	270				
4.5 "	31	4.8	2.8	354	2	1.8	1.4	009					4	8.4	8.0	280								
5.4 "	30	4.7	2.7	004	1	2.1	2.1	335																
6.0 "	30	4.6	2.8	016																				
7.2 "	30	5.7	3.4	062																				
9.0 "	25	8.3	8.0	087																				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

AUGUST 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
	AMAUSI					BAMRAULI					GAUHATI					JODHPUR					NEW DELHI			
	1730 hrs.				10.5	1730 hrs.*					0530 hrs.*					1730 hrs.*					0530 hrs.			
10.5	1	14.9	14.9	085	12.0	19	10.5	9.3	091	10.5	24	9.7	8.2	083	10.5	12	9.5	8.9	080	21.0	10	17.3	17.2	091
12.0	1	15.4	15.4	090	14.1	9	10.4	9.0	082	12.0	23	12.8	10.3	069	12.0	7	9.3	8.9	082	24.0	4	18.0	17.5	091
	AMBALA				16.2	BAREILLY					MADRAS					1130 hrs.								
	0530 hrs.					0530 hrs.					0530 hrs.*													
10.5	1	8.7	8.7	105	18.0	2	6.9	6.6	095	10.5	20	16.6	14.8	089	10.5	20	16.6	14.8	089	12.0	1	6.2	6.2	095
	1730 hrs.				10.5	1730 hrs.*					1730 hrs.*													
10.5	7	8.2	3.0	083	12.0	1	9.8	9.8	095	10.5	16	25.8	25.4	087	12.0	16	25.8	25.4	087	12.0	28	6.2	2.1	076
12.0	7	8.5	3.1	084		1730 hrs.				12.0	22	11.0	9.6	072	14.1	8	34.2	31.6	092	14.1	28	5.7	3.4	075
14.1	6	7.6	3.3	067	10.5	7	5.7	4.6	070	14.1	17	14.4	13.6	065	16.2	3	38.1	37.9	087	14.1	25	7.6	6.1	080
16.2	3	9.6	8.6	072	12.0	5	8.4	7.0	048	16.2	11	17.2	16.3	068	10.5	1	21.6	21.6	090	16.2	24	11.2	9.9	085
18.0	2	12.4	11.6	068	14.1	3	9.8	7.2	023	18.0	5	23.9	22.1	079		1130 hrs.				18.0	17	12.6	11.7	093
21.0	1	11.3	11.3	135	16.2	1	9.8	9.8	075	21.0	1	18.5	18.5	070	10.5	1	21.6	21.6	090	21.0	6	15.4	15.1	096
24.0	1	22.1	22.1	100	18.0	1	13.9	13.9	085		GAYA				10.5	23	16.0	15.6	091	24.0	1	11.8	11.8	080
27.0	1	28.8	28.8	100		BHAGALPUR					0530 hrs.				12.0	19	26.5	25.7	086		PORT BLAIR			
	AMRITSAR					1730 hrs.					1730 hrs.										0530 hrs.*			
	0530 hrs.*				10.5	1	13.9	13.9	070	10.5	2	15.7	15.2	080	14.1	12	31.2	31.0	087	10.5	6	15.4	14.6	071
10.5	22	6.7	4.9	285		BIKANER				10.5	2	11.3	11.2	065	16.2	3	35.8	35.3	086	12.0	4	19.7	19.0	075
12.0	16	7.4	5.9	295		1730 hrs.				12.0	1	5.1	5.1	100		MINICOY				14.1	2	23.9	23.5	114
14.1	7	7.1	4.6	320		1730 hrs.				14.1	1	11.3	11.3	105	10.5	1	10.3	10.3	105	14.1	2	23.9	23.5	114
16.2	2	7.7	5.1	310	10.5	1	3.1	3.1	260		GORAKHPUR				10.5	1	10.3	10.3	105	10.5	5	14.8	14.2	062
	1730 hrs.*					DARJEELING					0530 hrs.				10.5	10	14.3	13.8	081	12.0	2	18.5	18.5	070
10.5	22	6.5	5.9	297		0530 hrs.				10.5	1	11.8	11.8	090	12.0	9	20.5	20.0	075	14.1	1	8.7	8.7	020
12.0	17	7.5	4.4	296	10.5	3	10.3	8.7	078	12.0	1	16.0	16.0	085	14.1	4	25.2	25.0	076	10.5	1	7.2	7.2	070
14.1	7	6.5	5.1	290	12.0	2	10.3	8.7	083		1730 hrs.				16.2	1	43.7	43.7	080	12.0	1	14.9	14.9	070
16.2	1	5.1	5.1	340	14.1	2	8.0	7.7	072	10.5	4	9.4	7.2	092		1730 hrs.*				14.1	1	13.9	13.9	080
	ASANSOL					DUM DUM				12.0	4	8.9	5.3	088	10.5	10	13.5	12.8	091	14.1	1	19.0	19.0	060
	1730 hrs.					0530 hrs.*				14.1	4	10.7	9.0	075	12.0	8	18.3	17.9	087		SANTA CRUZ			
10.5	1	11.8	11.8	100	10.5	15	12.5	10.2	085	16.2	4	18.5	18.1	091	14.1	3	26.0	25.9	077	10.5	24	11.7	11.1	070
12.0	1	14.9	14.9	060	18.0	2	24.5	24.4	080	18.0	2	18.8	18.8	089	16.2	2	36.0	36.0	086	12.0	18	20.6	20.0	066
	BAGHDOGRA					GANNAVARAM					JODHPUR					NANPARA					1730 hrs.*			
	0530 hrs.				14.1	1730 hrs.				10.5	0530 hrs.*				10.5	1730 hrs.				14.1	1730 hrs.*			
10.5	1	8.2	8.2	115	16.2	5	25.9	25.8	078	12.0	1	11.8	11.8	090	10.5	1	10.3	10.3	085	16.2	4	37.4	37.2	070
12.0	1	9.3	9.3	105	18.0	2	24.5	24.4	080	10.5	1	8.7	8.7	090	12.0	8	18.3	17.9	087	14.1	13	29.3	29.0	064
14.1	1	6.2	6.2	105		1730 hrs.*				12.0	1	11.8	11.8	090	10.5	1	10.3	10.3	085	16.2	4	37.4	37.2	070
	BAIRAGARH				10.5	18	11.0	9.2	090		1730 hrs.				12.0	1	7.7	7.7	070		1730 hrs.*			
	1730 hrs.				12.0	15	15.4	12.6	089	10.5	2	7.5	7.5	115	14.1	1	14.9	14.9	075	10.5	20	13.2	12.6	064
10.5	1	3.6	3.6	075	14.1	10	21.0	20.3	077	12.0	2	13.9	13.8	106	16.2	1	11.3	11.3	085	12.0	13	20.0	19.8	066
12.0	1	6.7	6.7	110	16.2	6	20.8	20.5	078	14.1	1	13.4	13.4	090		NEW DELHI				14.1	6	28.8	28.6	075
	BAMRAULI				18.0	3	21.8	17.2	068		0530 hrs.*				10.5	29	6.2	3.6	076	18.0	2	27.2	27.2	065
	0530 hrs.*					1730 hrs.				10.5	0530 hrs.*				12.0	29	6.4	4.1	081	21.0	1	33.9	33.9	070
10.5	11	11.6	10.5	086	10.5	1	18.0	18.0	100	10.5	15	9.8	9.1	076	14.1	29	7.9	6.3	082		TEZPUR			
12.0	8	12.5	11.9	077	12.0	1	13.4	13.4	075	12.0	9	12.3	11.4	073	16.2	27	12.0	11.3	067		1730 hrs.			
14.1	4	16.1	15.2	078	14.1	1	22.7	22.7	095	14.1	3	13.9	13.9	087	18.0	19	15.6	15.3	078	10.5	4	3.5	4.9	039
16.2	1	24.2	24.2	100																				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9 Km. above mean sea level

August 1959 (Sravana 10—Bhadra 9, 1881 Sakha)

Ht. n m.	N	V	v	D
TRIVANDRUM				
0530 hrs.*				
10.5	29	18.3	17.8	090
12.0	25	28.4	28.0	080
14.1	22	34.9	34.4	085
16.2	12	38.0	37.6	088
18.0	6	33.5	27.9	089
21.0	2	61.3	61.3	075
1730 hrs.*				
10.5	28	19.7	18.7	091
12.0	27	28.2	27.9	086
14.1	24	36.0	35.4	083
16.2	14	34.1	33.8	088
18.0	5	22.8	22.3	084
21.0	1	30.8	30.8	090
VERAVAL				
0530 hrs.*				
10.5	18	12.6	12.5	088
12.0	18	18.9	18.3	087
14.1	18	25.8	25.6	092
16.2	6	31.7	31.6	097
18.0	3	31.3	31.3	093
21.0	2	33.2	27.9	085
1730 hrs.*				
10.5	21	14.1	13.8	088
12.0	17	21.3	21.0	088
14.1	20	30.4	30.1	091
16.2	12	31.2	31.0	090
18.0	5	25.9	24.9	079
21.0	1	48.2	48.2	090

RADIOSONDE DATA

AUGUST 1959 (Sravana 10--Bhadra 9, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of Station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad . . .	Clock type	1st October, 1944	00 and 12	
2	Auritsar . . .	Clock type	21st June, 1957	00 and 12	
3	Bombay . . .	Clock type	7th September, 1954	00 and 12	
4	Calcutta . . .	Clock type	13th December, 1946	00 and 12	Fan type used from 13th December, 1946 to 30th November, 1947.
5	Gauhati . . .	Clock type	22nd July, 1955	00 and 12	
6	Jodhpur . . .	Clock type	17th April, 1946	00 and 12	
7	Madras . . .	Fan type	29th June, 1946	00 and 12	
8	Nagpur . . .	Fan type	1st October, 1946	00 and 12	
9	New Delhi . . .	Clock type	3rd December, 1943	00 and 12	
10	Port Blair . . .	Fan type	4th December, 1949	00 and 12	
11	Trivandrum . . .	Fan type	1st July, 1947	00 and 12	
12	Veraval . . .	Fan type	3rd October, 1944	00 and 12	
13	Visakhapatnam . . .	Fan type	8th December, 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G.M.T.

AUGUST 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1003 mb.)						NAGPUR (966 mb.)						NEW DELHI (975 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	300.3	302	298	295.1	26	311	297.1	299	296	295.5	31	210	300.0	303	298	298.5
1000	31	040	..	..	..	..	26	005	..	..	..	..	31	-013	..	..	..	..
900	31	967	295.1	297	292	289.7	26	929	295.1	298	294	291.4	31	920	298.1	301	295	294.1
850	31	1463	292.3	295	290	287.2	26	1424	292.4	295	290	289.0	31	1422	295.4	298	293	291.6
800	31	1983	288.9	292	286	284.9	26	1946	290.0	292	288	286.9	31	1948	292.2	295	289	288.5
700	31	3107	282.2	285	278	278.5	26	3076	284.4	288	280	280.3	31	3086	286.1	288	283	281.6
600	31	4370	275.2	278	273	271.6	26	4352	278.0	281	274	273.0	31	4370	279.4	282	275	273.7
500	30	5819	266.9	271	262	..	24	5820	270.0	274	264	..	30	5850	272.0	274	269	264.9
400	29	7532	256.6	261	251	..	24	7555	259.8	266	252	..	30	7599	261.7	265	251	..
300	28	9639	242.1	247	236	..	20	9697	244.3	248	231	..	30	9755	248.8	252	245	..
250	19	10925	232.5	239	222	..	17	10980	236.6	240	232	..	30	11061	239.8	248	235	..
200	13	12411	222.2	229	211	..	17	12487	224.9	229	220	..	30	12589	227.0	232	220	..
175	10	13257	216.1	220	213	..	16	13345	217.3	225	211	..	30	13465	220.4	225	213	..
150	9	14227	209.4	211	204	..	15	14322	211.1	220	204	..	30	14439	213.0	219	203	..
125							12	15426	204.0	212	195	..	30	15557	204.8	211	194	..
100							9	16775	202.6	211	197	..	28	16888	200.9	206	191	..
80													18	18203	201.9	208	197	..
Standard Pressure Surface mbs.	PORT BLAIR (998 mb.)						TRIVANDRUM (1001 mb.)						VERAVAL (1001 mb.)					
	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point
Surface	31	079	298.5	300	296	297.1	31	064	297.7	299	296	295.3	31	008	300.0	301	299	297.8
1000	31	058	..	..	..	..	31	069	..	..	..	..	31	020	..	..	..	..
900	31	981	294.4	297	293	291.2	31	989	292.9	296	290	288.8	31	942	293.2	296	291	290.8
850	31	1475	291.8	294	288	287.6	31	1481	290.4	294	287	284.9	31	1434	290.4	293	288	288.0
800	31	1995	289.2	291	285	284.5	31	1997	287.7	291	285	281.0	31	1952	289.5	295	286	283.7
700	31	3119	283.3	287	279	277.8	31	3117	282.3	287	280	273.8	31	3081	284.7	290	279	276.4
600	31	4387	276.2	280	272	271.7	31	4378	275.1	279	271	267.1	31	4356	278.0	281	272	270.4
500	30	5841	267.6	271	263	..	31	5827	267.1	274	261	..	31	5817	268.4	273	262	..
400	30	7560	257.4	263	253	..	31	7539	256.1	266	251	..	31	7541	258.2	264	249	..
300	27	9674	243.1	251	237	..	30	9639	241.2	247	234	..	28	9664	245.0	252	237	..
250	17	10936	232.9	239	228	..	30	10903	231.7	239	222	..	25	10950	236.4	245	231	..
200	10	12381	221.2	224	217	..	25	12363	220.0	228	209	..	26	12418	223.5	234	217	..
175	7	13235	212.2	217	207	..	25	13212	214.2	225	204	..	26	13315	216.3	227	209	..
150	6	14191	205.6	211	198	..	25	14169	207.9	220	197	..	26	14281	209.6	221	202	..
125							21	15266	204.4	215	193	..	22	15386	205.0	214	197	..
100							16	16585	203.1	210	193	..	14	16780	202.4	208	199	..
80							9	18043	205.3	210	201	..	8	18137	204.1	208	200	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (996 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	299.2	301	298	296.7
1000	31	007	..	..	..	..
900	31	935	295.4	298	291	291.6
850	31	1432	292.5	295	288	289.1
800	31	1953	289.6	293	285	286.8
700	31	3079	283.5	287	279	280.6
600	31	4348	276.8	281	272	273.6
500	31	5869	269.2	273	264	..
400	31	7540	259.3	263	253	..
300	22	9668	245.5	251	238	..
250	18	10950	235.5	240	227	..
200	12	12490	225.0	231	214	..
175	12	13349	218.3	224	205	..
150	11	14310	211.5	219	202	..
125	7	15391	205.0	212	197	..
100	6	16738	201.5	205	197	..
80	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1001 mb.)						NAGPUR (964 mb.)						NEW DELHI (973 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	304.3	308	301	296.4	27	311	300.9	305	298	295.5	31	210	304.3	308	301	298.7
1000	31	020	..	..	..	..	27	012	..	..	..	..	31	-031	..	..	..	..
900	31	960	298.4	301	296	290.9	27	921	297.0	301	293	291.3	31	913	300.0	303	297	296.5
850	31	1461	294.8	297	291	289.0	27	1419	293.6	297	290	289.4	31	1417	297.1	299	294	291.5
800	31	1983	290.0	293	286	286.5	27	1942	290.3	293	288	286.5	31	1966	293.1	296	290	288.4
700	31	3109	282.8	286	280	279.4	27	3073	284.7	287	283	280.0	31	3089	287.4	291	285	281.4
600	31	4376	276.2	281	273	271.7	27	4353	278.8	281	275	272.5	31	4373	281.0	284	279	273.9
500	31	5834	268.4	272	263	..	25	5829	271.0	273	268	..	31	5863	273.1	277	269	263.7
400	31	7554	257.7	262	253	..	25	7573	260.6	264	257	..	30	7621	263.1	268	260	..
300	28	9657	242.1	253	237	..	20	9711	245.9	252	238	..	28	9789	249.6	254	246	..
250	23	10920	231.7	238	228	..	14	11003	236.4	246	231	..	28	11099	240.1	245	237	..
200	19	12409	220.1	226	213	..	14	12511	224.7	233	215	..	27	12635	228.5	235	224	..
175	14	13314	213.9	219	205	..	9	13410	219.4	229	212	..	27	13516	221.8	229	215	..
150	11	14226	208.3	212	198	..	8	14350	210.0	218	201	..	26	14500	214.6	223	209	..
125	5	15359	206.4	209	201	..							25	15619	206.5	215	195	..
100						..							21	16956	201.9	217	193	..
80						..							14	18259	200.5	204	194	..
Standard Pressure Surface mbs.	PORT BLAIR (998 mb.)						TRIVANDRUM (999 mb.)						VER-AVAL (1001 mb.)					
	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point	No. of Obs.	Ht. gpm.	Mean	Max.	Min.	Dew point
Surface	31	079	299.5	302	297	297.6	31	064	300.9	302	298	296.0	31	008	301.1	303	300	298.1
1000	31	049	..	..	..	..	31	060	..	..	..	..	31	019	..	..	..	..
900	31	974	294.4	297	291	292.8	31	985	293.5	296	290	289.4	31	943	293.8	297	291	291.4
850	31	1468	292.0	295	290	289.1	31	1478	290.8	293	289	286.4	31	1436	291.3	396	288	290.2
800	31	1987	288.9	292	285	285.9	31	1995	288.4	291	286	282.9	31	1955	289.7	295	284	285.2
700	31	3111	282.7	286	275	279.1	31	3117	283.3	287	281	276.2	31	3088	285.8	291	282	276.8
600	31	4376	276.0	280	271	272.0	31	4384	276.3	280	273	270.2	31	4366	277.8	281	274	271.6
500	30	5834	268.5	273	264	..	31	5839	267.7	271	261	..	30	5830	269.5	275	261	..
400	29	7558	257.9	261	253	..	31	7556	256.6	262	249	..	30	7563	260.3	264	253	..
300	22	9687	245.3	249	239	..	30	9659	242.1	251	233	..	27	9703	246.2	253	238	..
250	15	10959	234.3	241	227	..	29	10924	232.4	242	221	..	23	10986	236.4	243	227	..
200	12	12469	224.1	231	217	..	28	12411	222.0	232	212	..	24	12445	224.2	232	214	..
175	6	13298	216.2	225	208	..	27	13272	216.5	222	207	..	24	13397	217.7	228	208	..
150	6	14268	208.8	219	201	..	23	14219	208.6	218	199	..	21	14363	209.1	220	199	..
125						..	20	15313	202.9	211	195	..	19	15436	203.8	215	193	..
100						..	18	16630	201.3	209	190	..	11	16790	202.0	212	192	..
80						..	11	18002	205.1	213	193	..	7	18195	207.4	227	199	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G.M.T.

August 1959 (Sravana 10—Bhadra 9, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (994 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	301.8	304	299	297.4
1000	31	—008	..	..	..	..
900	31	926	296.7	299	293	292.1
850	31	1425	293.9	298	291	289.4
800	31	1949	291.2	293	289	286.2
700	31	3082	284.8	287	279	280.7
600	31	4357	278.1	282	275	274.2
500	31	5824	269.8	275	264	..
400	29	7561	259.5	264	254	..
300	18	9692	245.4	248	240	..
250	18	10976	234.9	237	228	..
200	13	12479	223.5	229	218	..
175	10	13343	217.1	221	212	..
150	9	14318	210.7	215	204	..
125	8	15432	204.1	207	198	..
100	5	16751	201.4	208	197	..
80						

NOTE:—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

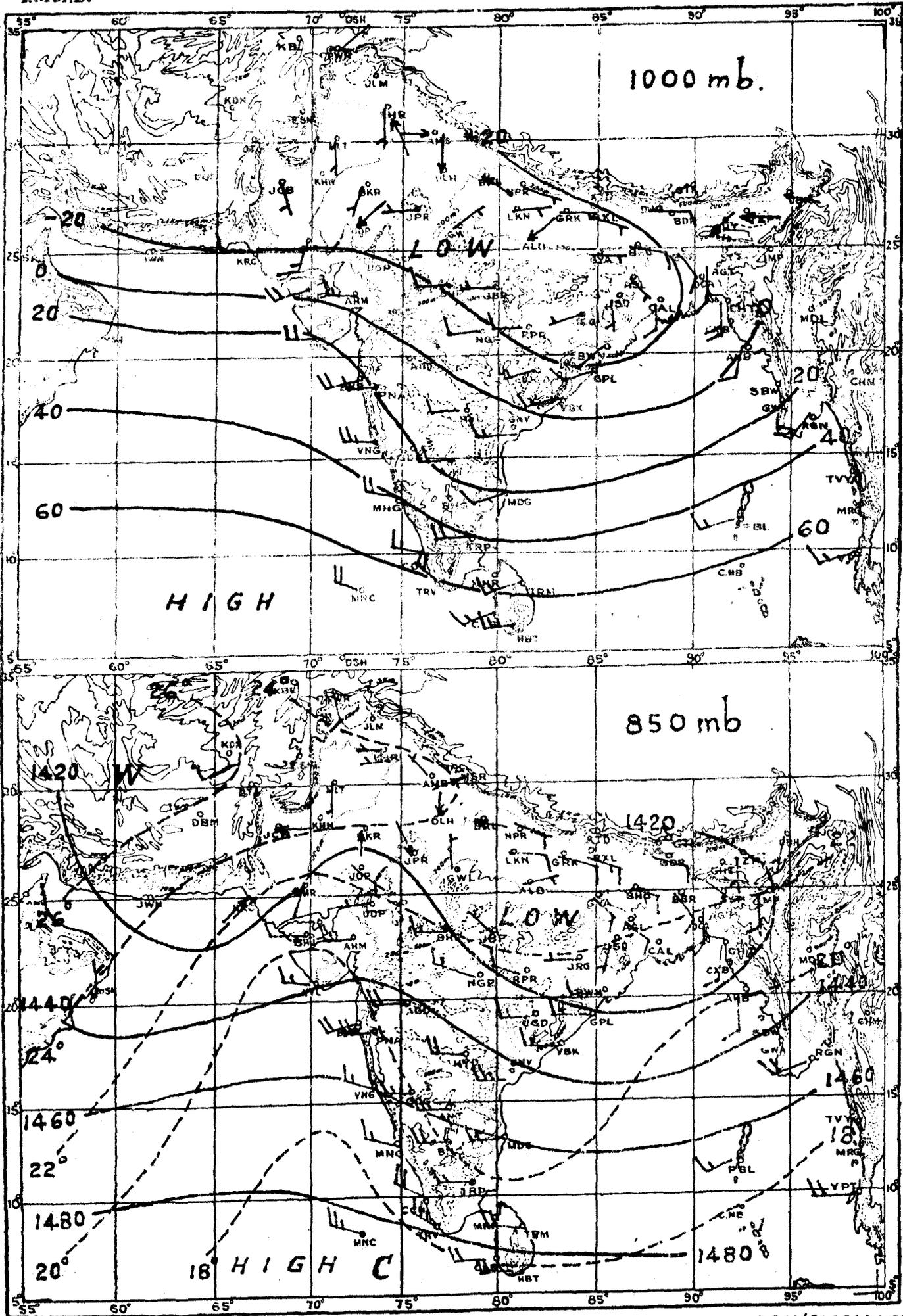
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

I. Met. D.

AUGUST 1959

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

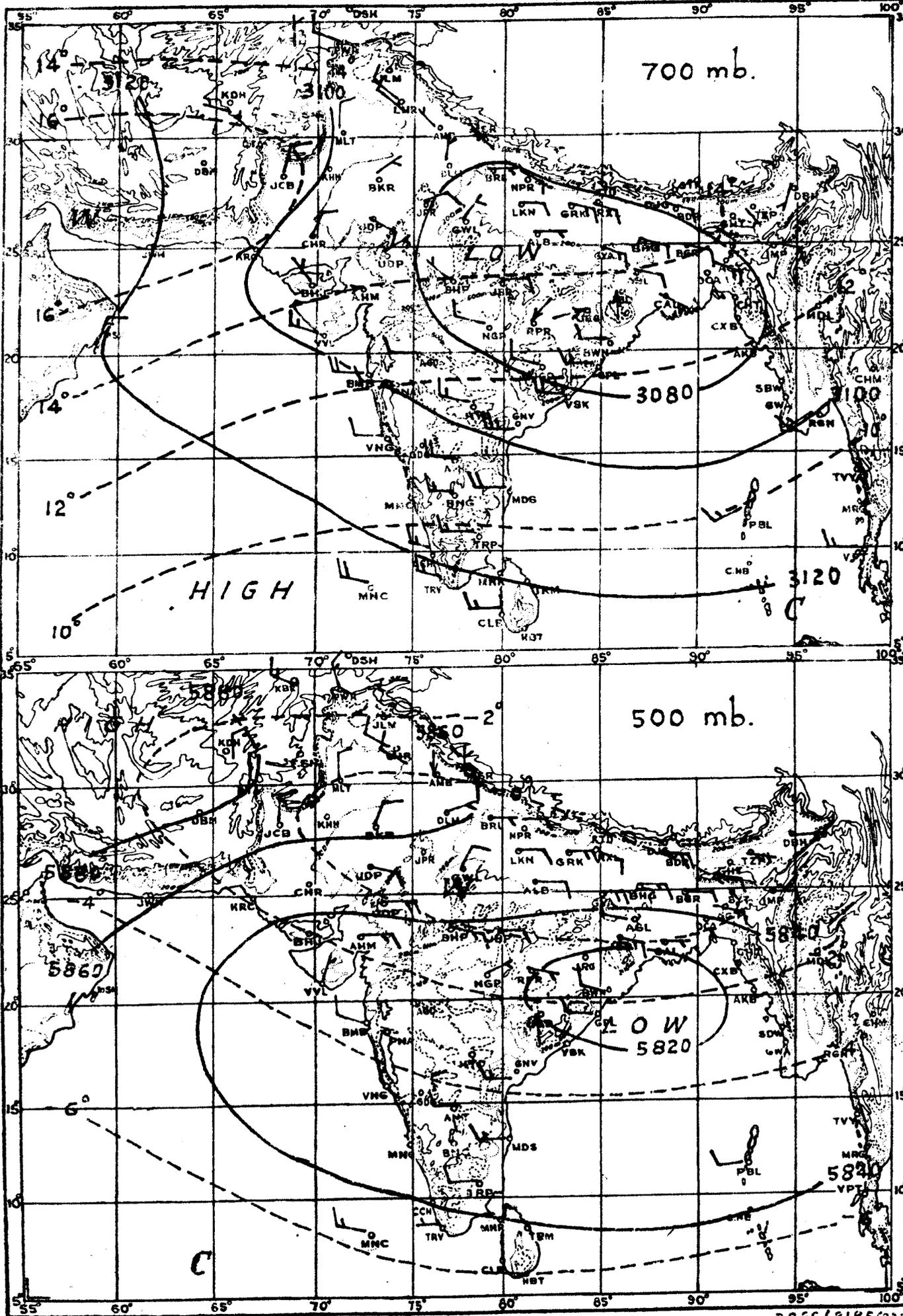
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

AUGUST 1959

Plate II

I.Met.D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

DDCC/2185(2):3:64

G.P. D. POONA, 1955

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

September.

Published by authority of the Government of India

ATMOSPHERIC SCIENCES

LIBRARY

MAR 1 1967

E. S. S. A.
U. S. Dept. of Commerce

Chief features :

- (1) Abnormally heavy rainfall over the central parts of the country in association with a land depression, resulting in unprecedented floods in the rivers Tapi and Godavari.
- (2) A break in the monsoon conditions during the third week of the month, and
- (3) A severe cyclonic storm in the Bay of Bengal towards the end of the month.

During the first half of September the activity of the monsoon was influenced by two low pressure areas and a depression. The first low pressure area formed over the region extending from northwest Madhya Pradesh to northwest Bay of Bengal on 2nd, moved slowly westnorthwestwards and merged in the seasonal low over West Pakistan by 8th. The second low pressure area appeared over Bihar Plateau and the neighbourhood on 7th and lay over northeast Madhya Pradesh and Bihar Plateau on 9th. In association with these two low pressure systems the monsoon was active over northwest India, the central parts of the country, Gujarat and Saurashtra and Kutch between 2nd and 9th. According to press reports, the water level in the river Narbada rose and submerged the Bombay-Agra national highway near Indore. The eastern portion of the second low pressure area which extended from northeast Madhya Pradesh to Orissa on 9th intensified into a land depression on 10th morning with its centre about 100 kms. to the northeast of Angul in Orissa. Moving slowly westwards till 14th and northwestwards thereafter it lay over northwest Madhya Pradesh with its centre about 100 kms. to the north of Indore on 15th morning. It weakened and merged in the seasonal trough on 16th. Under its influence, there was widespread rain over the belt extending from Gangetic West Bengal and Orissa to Rajasthan and Saurashtra and Kutch between 10th and 16th. Very heavy rain was reported from some places in Gangetic West Bengal, south Madhya Pradesh, Vidarbha, Gujarat and Saurashtra and Kutch; some noteworthy amounts of rainfall recorded were: Calcutta (Dum Dum) 15 cm. on 10th and again 11 cm. on 12th, Yeotmal 21 cm. on 14th, Akola 19 cm. on 14th and again 37 cm. on 15th and Radhanpur (Gujarat) 21 cm. on 16th. According to press reports continuous rain in West Bengal caused serious floods which destroyed about 200,000 tons of paddy grown on 357,000 acres of land. The abnormally heavy rainfall in the central parts of the country led to unprecedented floods in the river Tapi and Godavari. Swollen waters of the Tapi recorded an all time flood-mark of 102.3 ft., breaches the walled town of Surat and submerged nearly three fourths of the town under water. 71 people were reported to have been killed. Floods in the Godavari were reported to have affected standing crops in an area of 50,000 acres in East Godavari district and 1,25,000 acres in West Godavari district.

With the dissipation of the depression on 16th the axis of the monsoon trough shifted northwards and remained close to the foot of the Himalayas till 24th. At the same time the monsoon became weak over several parts of the country, the rainfall being confined mostly to northeast India and in and near the Punjab-Kumaon hills. A wet spell, nevertheless, occurred between 17th and 27th over most parts of the Peninsula in association with a trough of low pressure which appeared over the south Peninsula on 17th and shifted slowly westwards over the east central Arabian Sea.

A depression formed in the central Bay of Bengal on 28th morning with its centre near Lat. 18°N and Long. 89°E. It concentrated into a severe cyclonic storm of small extent centred about 250 kms. to the south of Calcutta on the last day of the month. Under its influence, a general strengthening of the monsoon current took place over the country, particularly over the Peninsula during the last three days of the month; fairly widespread or local showers occurred along the west coast, in Interior Mysore, coastal Orissa, Bihar Plateau and Gangetic West Bengal.

The month of September closed with the monsoon activity persisting almost throughout the country whereas normally it should have withdrawn by the end of the month from northwest India, west Uttar Pradesh, west Madhya Pradesh, Saurashtra and Kutch, Gujarat and the north Konkan.

The rainfall for the month was in large excess in Gangetic West Bengal, Rajasthan, Gujarat, Saurashtra and Kutch, Vidarbha and Kerala, in moderate excess in the Bay Islands, Bihar Plateau, the Punjab (I), Madhya Pradesh, Maharashtra (including Marathwada), coastal Mysore and south Interior Mysore and in slight excess in the Arabian Sea Islands. It was in slight defect in Telangana and Rayalaseema, in moderate defect in Sub-Himalayan West Bengal, Bihar Plains, Jammu and Kashmir, Coastal Andhra Pradesh and the Madras State and in large defect in east Uttar Pradesh. The rainfall was normal over the rest of the country outside Himachal Pradesh.

The mean maximum temperature was above normal in Jammu and Kashmir, below normal in Sub-Himalayan West Bengal, Rajasthan, Gujarat and Saurashtra and Kutch and normal elsewhere over the country outside Himachal Pradesh.

The mean minimum temperature was above normal in the Punjab(I), Jammu and Kashmir and the Arabian Sea Islands and normal over the rest of country outside Himachal Pradesh.

The mean relative humidity in the morning was in excess in the Bay Islands, the Punjab(I), Rajasthan, Gujarat, Saurashtra and Kutch, Vidarbha and south Interior Mysore and normal elsewhere over the country outside Himachal Pradesh.

The mean cloud amount in the morning was in excess in the Sub-Himalayan West Bengal, Uttar Pradesh, the Punjab (I), Jammu and Kashmir, Rajasthan, Madhya Pradesh, Vidarbha, north Interior Mysore and the Arabian Sea Islands and normal elsewhere over the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. I.S.T. of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. I.S.T. of the date given in the succeeding column.

Poona 5,
The 12th December 1959

C. RAMASWAMY,
for DIRECTOR GENERAL OF OBSERVATORIES

Errata to M.W.R. for September 1959 (Bhadra 10 - Asvina 8, 1981 Saka)

o-o

Page No.	Station	Hour	Column	For	Read
----------	---------	------	--------	-----	------

Table II

464	Tura		10	179.3	197.3
464	Agartala		10	197.5	97.5
464	Purulia		5	(Not clear)	24.5
464	Berhampore		10	553.0	253.0
464	Berhampore		19	+3.5	+0.4
465	Chaibasa		5	22	23
465	Chaibasa		8	12.9	22.9
465	Hazaribagh		7	-1.0	-0.1
465	Ballia		8	23.2	22.2
467	Jaipur (Sanganer Aerodrome)		28	0	3
467	Gwalior		17	9.8	9.1
467	Sagar		15	(not clear)	12
467	Ambikapur		24	3	2
467	Dohad		12	-203.3	+203.3
468	Dwarka		12	-227.7	+227.7
468	Khandwa		11	1375.0	1375.4
468	Sholapur		11	149.9	144.9
469	Kurnal		3	40.7	+0.7
469	Salem		11	14.41	114.4
469	Bijapur		29	(Blank)	0
469	Balehonnur		3	+0.8	-0.8
470	Kalimpong		24	(Blank)	0
470	Mukteswar (Kumaon)		6	(Not clear)	14.1
470	Trincomalee		22	(Blank)	0
471	Bhimkund		9	1020	10,20
471	Timure		20(a)	(Blank)	0

Table III

473	Dhubri	0830	6	+0.7	-0.7
473	Tura	0830	19	2	0
473	Agartala	1730	15	7.5	7.6
473	Imphal	2330	23	11	1
473	Haflong	0830	23	1	11
473	Cooch Behar (C.W.O)	1730	15	4.3	4.9
476	Bhagalpur	2330	24	(Blank)	2
476	Sabour	0830	24	(Blank)	1
476	Gonda	0830	24	(Blank)	0
476	Gonda	1730	24	(Blank)	0
476	Nautanwa	0830	21	(Blank)	10
476	Ballia	0830	23	0	1
476	Varanasi (Banaras)	0830	23	0	1
476	Allahabad (Bamrauli)	0830	6	1.5	-1.5
476	Sultanpur	1730	23	1	0
477	Agra (Aerodrome)	2330	27	2	-14
477	Dehra Dun	1130	23	(Blank)	5
478	New Delhi (Palam Aero-drome)	0230	5	976.7	976.2
478	New Delhi (Palam Aero-drome)	1730	19	2	1
478	Ambala	0830	9	24.5	24.9
478	Pathankot (Aerodrome)	1130	13	5.8	5.7

Page No.	Station	Hour	Column	For	Read
<u>Table III (continued)</u>					
479	Jammu (Aerodrome)	0530	4	(Not clear)	1002.6
479	Jammu (Aerodrome)	1730	4	1000.	1000.5
479	Jammu (Aerodrome)	1730	5	68.3	968.3
479	Sri Ganganagar	1130	4	(Not clear)	1003.0
479	Sri Ganganagar	1130	5	(Not clear)	983.6
479	Sri Ganganagar	1730	5	(Not clear)	980.3
480	Gwalior (P.B.O)	0830	18	18	28
480	Gwalior (P.B.O)	1130	16	(Blank)	0
481	Fendra	0830	20,21	0,1	4,0
482	Porbander	1730	11	81	80
484	Poona	2330	23	2	0
484	Poona (Lohagson Aerodrome)	0230	4	1000.7	1005.7
485	Nagpur	1730	25	3	8
486	Khammameth	1730	19	(Blank)	0
486	Arogyavaram	0830	19	(Blank)	2
486	Tondi	0830	4	106.	1007.4
486	Tondi	0830	7	2.91	29.1
486	Tondi	1730	7	3.09	30.9
486	Mathurai	0830	3	131	133
486	Mathurai	1730	7	21.7	31.7
486	Mathurai	1730	9	2.04	20.4
486	Mathurai (Aerodrome)	0530	7	35.6	25.6
486	Mathurai (Aerodrome)	0530	8	2.04	20.4
486	Mathurai (Aerodrome)	0830	7	38.5	28.5
486	Nagapattinam	0830	12	..	-1
486	Nagapattinam	1730	4	1013.8	1003.8
486	Tiruchirapalli	1730	8	24.9	24.7
486	Salem	0530	15	(not clear)	2.
487	Cuddalore	1730	26	4	1
487	Cuddalore	2330	11	78	84
487	Vellore	1130	15	1.7	9.2
488	Mysore	1730	4	1004.1	1004.8
488	Kozhikode	0830	6	+1.2	-1.2
488	Kozhikode	1130	4	1009.6	1009.7
488	Fort Cochin	0830	6	+1.2	-1.2
488	Cochin (Naval Air Station)	0530	20	4	0
488	Cochin (Naval Air Station)	1730	8	24.3	24.8
489	Cherrapunji	0830	14	-1.3	-1.4
490	Bagra Tawa	0830	7	25.4	25.8
491	Dandeldhura	0830	1	Dandeldhura †	Dandeldhura
491	Kathmandu	0830	1	Kathmandu †	Kathmandu †
491	Barakhshetra	1730	2	†† 1730	1730
491	Angbung	0830	2	‡ 0830	†† 0830
491	Angbung	1730	2	1730	† 1730
491	(Foot note)	-	-	† Date included under 'Hill Stations'	† Date included under 'Hill Stations'

Page No.	Station	Time in I.S.T	Height in Km.	Entry under column	Existing entry	Correct entry
493	Jagdarpur	-	-	Station	Jagdarpur	Jagdarpur
494	Ahmedabad	1730	6.0&7.2	n,V,v,D	Values slightly	shifted above.
494	Ahmedabad	2330	1.5	D	299	279
495	Asansol	0530	0.6	V	2.6	2.8
495	Anantapur	1730	7.2	v	1.9	1.1
495	Baghdogra	-	-	Station	BAGHDQOGR	BAGHDOGRA
496	Bairagarh	-	-	Station	BAIRHGARRH	BAIRAGARH
496	Bajpe	1730	0.6	V	7.3	7.2
496	Bajpe	1730	0.9	V	7.2	7.3
497	Bareilly	1730	Surface	D	064	065
497	Bhagalpur	0530	0.6	v	3.7	3.5
497	Bhagalpur	1730	Surface	D	099	098
497	Bhubaneshwar	0530	Surface	v	1.2	1.9
497	Bhabaneshwar	1730	1.5	D	223	323
499	Dum Dum	0530	9.0	n	29	21
499	Gannavarem	1730	5.4	n	13	14
503	-	-	9.0	Ht.in Km.	.0	9.0
505	Santa Cruz	2330	Surface	n	26	30
505	Santa Cruz	2330	Surface	V	3.4	2.9
505	Santa Cruz	2330	Surface	v	2.6	2.2
506	Tiruchirapalli	0530	6.0	n	4	5
507	Veraval	0530	5.4	n	20	29
509	New Delhi	0530	16.2	n	27	26
509	New Delhi	0530	-	-	1730 hrs.	1730 hrs.*
509	Trivandrum	1730	18.0	Ht.in Km.	18.2	18.0

RADIO SONDE DATA

				Heading Radiosonde Data	RADIOSONDE DATA
510	-	-	-	Serial No. -	1
511	Calcutta	00 GMT	700 mb.	Ht.gpm 3091	3081
512	Madras	00 GMT	Surface	Mean 290.6	299.6
512	Nagpur	00 GMT	-	Pressure (975 mb.)	(968,mb.)
515	New Delhi	12 GMT	800 mb.	Dew point 279.2	287.0
515	New Delhi	12 GMT	700 mb.	Dew point 271.0	279.2
515	New Delhi	12 GMT	600 mb.	Dew point 265.9	271.0
515	New Delhi	12 GMT	500 mb.	Dew point -	265.9
515	Port Blair	12 GMT	500 mb.	Max. 291	271

1	2	3	4	5	Relative humidity %		Cloud		1	2	3	4	5	Relative humidity %		Cloud					
					Mean maximum temperature °C	Mean minimum temperature °C	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	Mean maximum temperature °C	Mean minimum temperature °C	0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
Division									Division—(Contd.)												
1. Assam (Including Manipur, Tripura)	269.2 -10.8	96	31.4 +0.3	24.5 0	85 0	81 -0.5	5.3	5.1	7. Jammu and Kashmir	22.0 -10.5	68	24.5 +2.1	11.7 +3.9	69 -2	55	3.1 +0.6	3.2 +0.6				
2. West Bengal	372.6 +79.2	127	30.9 -1.0	25.3 -0.3	85 +3	84 +0.4	5.5	5.8	8. Rajasthan	145.0 +78.4	218	32.2 +1.8	24.1 +0.6	83 +13	68	4.1 +1.6	4.6				
3. Orissa	220.6 -6.8	97	31.2 -0.4	25.4 -0.1	85 +3	82 +0.9	5.9	6.6	9. Madhya Pradesh	276.8 +58.7	127	30.0 -0.6	22.8 +0.3	86 +5	76	5.7 +1.2	6.0				
4. Bihar	200.1 -15.6	93	31.4 -0.1	24.7 0	83 +3	82 +0.6	5.4	5.7	10. Bombay	331.2 +123.6	160	29.9 -0.8	19.0 +0.2	87 +6	76	5.6 +0.6	5.8				
5. Uttar Pradesh	109.8 -69.7	61	33.1 +0.3	25.0 +0.8	79 +1	69 +1.1	4.4	4.2	11. Andhra Pradesh	127.0 -34.4	79	32.6 +0.2	24.5 +0.2	78 +1	68	5.7 +0.5	5.4				
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	172.6 +43.1	133	33.7 -1.0	24.8 +1.1	82 +11	69 +0.9	3.2	3.8	12. Madras State	71.1 -29.3	71	34.0 +0.6	24.6 +0.3	72 -2	64	5.1 +0.8	5.9				
									13. Mysore	236.3 +53.7	129	28.8 -0.3	21.3 +0.6	87 +5	71	6.8 +1.3	6.8				
									14. Kerala	307.6 +137.2	181	29.2 +0.2	24.0 +0.3	88 +3	82	5.7 +0.4	6.2				
Sub-division									Sub-division—(Contd.)												
1. Bay Islands	605.9 +163.9	137	28.7 +0.3	23.6 +0.4	91 +7	93 +0.8	7.0	6.5	16. Madhya Pradesh (East)	308.1 +88.0	140	29.8 -0.4	23.1 +0.4	85 +3	79	5.8 +1.0	6.6				
2. Assam (Including Manipur, Tripura)	269.2 -10.8	96	31.4 +0.3	24.5 0	85 0	81 -0.5	5.3	5.1	17. Gujarat	354.0 +217.1	259	30.4 -1.5	24.0 +0.3	91 +10	75	5.7 +0.9	5.1				
3. Sub-Himalayan West Bengal	318.1 -158.3	67	30.3 -1.1	24.9 -0.1	83 -1	77 +1.1	5.5	4.9	18. Saurashtra and Kutch	195.7 +127.7	288	30.4 -1.7	23.9 0	88 +8	78	4.9 +0.7	5.3				
4. Gangetic West Bengal	393.1 +168.2	175	31.0 +1.0	25.4 -0.3	86 +4	85 +0.2	5.6	6.0	19. Konkan	368.6 +3.7	101	29.2 +0.1	24.5 +0.3	88 +2	84	6.2 +0.1	5.9				
5. Orissa	220.6 -6.8	97	31.2 -0.4	25.4 -0.1	85 +3	82 +0.9	5.9	6.6	20. Maharashtra (Including Marathwada)	295.4 +89.8	143	29.7 -0.3	20.9 +0.3	85 +5	70	5.5 +0.3	6.1				
6. Bihar Plateau	290.4 +78.8	137	30.7 -0.3	23.9 +0.1	84 +3	85 +0.7	5.7	6.5	21. Vidarbha	501.7 +319.9	275	30.5 -1.0	22.9 -0.2	87 +7	74	5.8 +1.1	6.4				
7. Bihar Plains	139.9 -78.5	64	32.1 +0.1	25.4 -0.1	82 +2	79 +0.5	5.1	4.9	22. Coastal Andhra Pradesh	110.9 -38.2	74	33.4 +0.1	25.6 +1.0	79 +2	72	5.7 +0.4	6.0				
8. Uttar Pradesh (East)	75.2 -119.4	39	33.4 +0.5	25.5 +0.8	79 -1	68 +1.2	4.8	4.2	23. Telangana	157.5 -34.7	82	30.7 0	22.7 +0.2	80 +1	69	5.5 +0.5	5.7				
9. Uttar Pradesh (West)	148.8 -13.9	91	32.7 0	24.4 +0.9	80 +4	70 +0.9	4.0	4.2	24. Rayalaseema	128.5 -26.2	83	33.7 +0.5	24.7 +0.7	71 -1	55	6.1 +0.7	6.2				
10. Punjab (India) (Including Delhi)	172.6 +43.1	133	33.7 -1.0	24.8 +1.1	82 +11	69 +0.9	3.2	3.8	25. Madras State	71.1 -29.3	71	34.0 +0.6	24.6 +0.3	72 -2	64	5.1 +0.8	5.9				
11. Himachal Pradesh	299.5 ..	..	30.5 ..	21.7 ..	90 ..	77 ..	5.7 ..	5.5	26. Coastal Mysore	446.1 +125.3	139	28.9 -0.1	23.4 +0.1	91 +1	83	7.1 +1.1	7.0			
12. Jammu and Kashmir	22.0 -10.5	68	24.5 +2.1	11.7 +3.9	69 -2	55 +0.6	3.1	3.2	27. Interior Mysore (North)	161.9 +4.7	103	30.1 +0.1	21.8 +0.9	85 +4	69	6.6 +1.6	6.8				
13. Rajasthan (West)	127.0 +99.0	454	33.8 -2.1	25.0 +0.9	83 +15	62 +1.4	3.4	4.0	28. Interior Mysore (South)	205.9 +66.8	148	27.5 -0.8	19.9 +0.5	88 +7	69	6.8 +0.9	6.7				
14. Rajasthan (East)	163.0 +57.8	155	31.0 -1.5	23.4 +0.3	83 +10	72 +1.7	4.7	5.1	29. Kerala	307.6 +137.2	681	29.2 +0.2	24.0 +0.3	88 +3	82	5.7 +0.4	6.2				
15. Madhya Pradesh (West)	247.9 +58.0	131	30.1 -0.8	22.6 +0.3	87 +5	73 +1.3	5.6	5.5	30. Arabian Sea Islands	190.7 +30.1	119	30.1 +0.5	25.4 +1.2	82 +2	78	5.9 +1.3	6.7				

Note:—The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—SEPTEMBER, 1959 (BHADRA 10—ASHVINA 8, 1881 SAKA) 467

Division and station	Air temperature in °C								Rainfall in millimetres				No. of rainy days (2·5 mm. or more)			Wind speed, km. per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0·1 and 0·2 mm.)	Precipitation (0·1 or 3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														20 (a)	20 (b)
Rajasthan (East) Contd.																															
Alwar . . .	33·1	..	35·6	1,3	24·7	..	22·1	24	64·4	100·2	..	47·6	8	6	..	4·9	3·6	..	0	10	0	0	2	0	0	0	0	0	0	0	0
Sikar . . .	32·4	..	35·4	3	23·8	..	21·7	19	62·6	82·0	..	18·5	10	7	..	7·4	4·6	..	0	10	0	0	0	0	0	0	0	0	0	0	
Jaipur (Sanganer Aerodrome).	31·8	-2·1	34·7	1	23·5	+0·8	21·0	19,25	53·5	170·2	+88·4	62·3	10	7	+2·3	..	..	..	1	14	0	1	10	0	0	0	0	0	0	0
Dholpur . . .	33·2	..	36·0	1	24·8	..	21·7	24	23·6	105·3	..	57·4	8	6	..	7·4	5·0	..	1	9	0	0	5	0	0	0	0	0	0	0	
Tonk . . .	32·5	..	35·4	1	24·2	..	22·3	23	43·8	108·6	..	24·2	14	10	..	10·4	6·5	..	1	14	0	0	5	0	0	0	0	0	0	0	
Ajmer . . .	30·5	-1·7	32·8	27,29	23·5	-0·1	21·1	24	46·4	93·8	+25·2	37·6	8	6	+2·0	9·6	6·9	+0·3	0	16	0	0	9	0	0	0	0	0	0	0	
Kotah . . .	32·1	-1·4	34·9	26	24·3	-0·4	21·9	27	54·9	145·4	+25·8	48·4	1	8	+2·3	2·3	2·0	-2·2	0	15	0	0	7	0	0	0	0	0	0	0	
Chambal . . .	31·2	..	33·6	25	23·1	..	21·1	22,25	100·5	296·5	..	82·5	14	13	..	7·1	4·4	..	0	16	0	0	9	0	0	0	0	0	0	0	
Jhalawar . . .	31·1	-0·8	33·4	26	23·8	+0·9	22·0	19	80·5	198·7	+40·5	36·2	2	11	+4·1	8·4	5·4	+0·4	1	17	0	0	8	0	0	0	0	0	0	0	
Udaipur . . .	29·4	-1·5	32·3	26,27	22·1	+0·3	19·3	23	173·3	206·8	+109·0	45·6	5	9	+3·6	5·3	3·8	..	0	14	0	0	0	0	0	0	0	0	0	0	
Eriapur (Jawai Dam).	31·1	..	34·4	29	23·7	..	22·0	24	185·8	334·0	..	37·0	4	11	..	5·7	5·7	..	0	14	0	0	0	0	0	0	0	0	0	0	
Madhya Pradesh (West) Gwalior (P.B.O.)																															
Sheopur Kalan . . .	30·5	..	33·9	26	24·0	..	22·2	20	51·6	70·4	..	28·4	10	6	..	8·6	6·2	..	0	12	0	0	4	0	0	0	0	0	0	0	
Guna . . .	30·0	-0·6	32·0	3	22·3	+0·4	20·6	20,29	82·5	112·9	-126·1	28·5	10	9	+0·4	12·2	8·3	..	1	15	0	0	4	0	0	0	0	0	0	0	
Rajgarh . . .	30·5	..	32·7	26	22·9	..	20·8	20	101·9	137·3	..	55·2	3	9	..	10·2	6·8	..	2	12	0	0	2	0	0	0	0	0	0	0	
Neemuch . . .	29·6	-1·5	32·8	27	22·7	+0·9	21·1	16	78·5	191·0	+64·8	37·2	14	11	+4·7	11·1	8·5	-1·2	5	14	0	0	7	1	0	0	0	0	0	0	
Ratlam . . .	29·4	..	32·5	28	22·4	..	20·6	16	78·3	287·4	..	67·9	15	11	..	9·1	7·3	..	0	21	0	0	4	0	0	0	0	0	0	0	
Alirajpur . . .	29·7	..	34·7	26	23·1	..	20·6	16	177·6	336·5	..	142·7	5	11	..	11·0	8·5	..	0	15	0	0	0	0	0	0	0	0	0	0	
Indore . . .	28·6	-1·1	32·0	27	21·1	+0·3	18·6	23	130·3	383·3	+219·2	123·3	1	10	+1·6	19·4	15·4	..	1	17	0	0	8	3	0	0	0	0	0	0	
Bhopal (Bairagarh)	29·7	-0·2	33·9	6	21·5	-0·4	18·5	20	102·9	289·0	+24·3	61·7	9	10	-0·2	14·0	11·9	+1·4	2	23	0	0	11	0	0	0	0	0	0	0	
Khandwa . . .	30·1	-1·2	33·8	28	23·0	+0·2	21·3	1	254·4	505·2	+360·7	218·6	15	7	-0·1	12·2	10·6	+2·6	0	14	0	0	3	0	0	0	0	0	0	0	
Hoshangabad . . .	31·4	+1·0	40·4	25	23·4	+0·5	21·0	16	40·0	229·2	+16·9	49·0	7	13	+3·5	7·2	4·9	+1·5	0	18	0	0	10	0	0	0	0	0	0	0	
Betul . . .	28·0	..	30·5	25	21·4	..	19·5	16,21	120·0	473·0	..	142·4	14	14	..	9·0	6·1	..	0	17	0	0	9	0	0	0	0	0	0	0	
Chhindwara . . .	28·9	..	32·4	26	21·5	..	19·6	20	136·8	302·2	..	53·7	14	17	..	10·0	7·0	..	0	20	0	0	11	0	0	0	0	0	0	0	
Seoni . . .	28·9	-0·5	31·1	25	21·9	+0·6	20·6	18	121·5	247·9	+29·7	32·2	8	17	+6·1	7·7	4·5	-0·3	0	24	0	0	7	0	0	0	0	0	0	0	
Sagar . . .	28·5	-1·5	30·7	24	22·3	+0·7	20·5	16	82·4	362·1	+169·1	129·2	3	11	+2·4	9·0	8·6	..	1	15	0	0	12	0	0	0	0	0	0	0	
Nowgong . . .	32·0	-0·4	35·1	24	23·5	-0·3	20·9	28	56·8	96·2	-51·4	43·4	25	7	-0·2	8·7	5·5	+2·6	0	11	0	0	10	0	0	0	0	0	0	0	
Madhya Pradesh (East) Sutta																															
Sidhi . . .	31·5	..	37·2	6	23·3	..	21·1	27,28	154·8	216·2	..	60·4	7	8	..	8·1	6·2	..	0	8	0	0	5	0	0	0	0	0	0	0	
Umari . . .	29·8	-0·4	32·4	23	23·0	+0·2	21·9	21,24	139·0	274·6	+42·7	86·2	7	15	+4·6	6·4	4·4	-0·7	0	20	0	0	7	1	0	0	0	0	0	0	
Jabalpur . . .	31·2	+0·6	33·9	25	23·6	+1·2	22·0	16	54·4	263·7	+50·1	113·1	9	13	+3·3	8·6	5·9	+2·4	0	18	0	0	7	0	0	0	0	0	0	0	
Mandia . . .	29·7	..	32·5	24,25	22·7	..	21·6	16,20	118·0	279·0	..	58·0	7	14	..	4·3	2·7	..	1	18	0	0	13	1	0	0	0	0	0	0	
Pendra . . .	28·1	-0·6	30·7	25	21·8	+0·4	20·1	24	243·7	328·1	+127·4	50·6	39	16	+4·7	9·3	6·4	..	1	20	0	0	16	0	0	0	0	0	0	0	
Ambikapur . . .	29·7	..	33·9	22	22·4	..	20·6	29	103·8	203·8	..	29·8	3	12	..	10·8	8·0	..	0	19	0	0	11	2	0	0	0	0	0	0	
Champa . . .	30·8	..	33·5	25	24·6	..	22·8	30	89·5	261·1	..	46·4	13	16	..	7·6	6·4	..	1	21	0	0	10	0	0	0	0	0	0	0	
Raigarh . . .	31·2	..	34·0	24	24·8	..	23·3	8	161·9	409·9	..	135·6	12	14	..	6·5	4·8	..	0	17	0	0	0	0	0	0	0	0	0	0	
Raipur . . .	30·5	-0·7	34·7	23	23·6	-0·3	19·4	26	81·1	360·1	+164·8	78·6	13	14	+3·7	10·3	8·0	+0·4	0	19	0	0	7	0	0	0	0	0	0	0	
Kanker . . .	29·4	-0·5	33·5	25	23·8	+1·1	20·9	10	152·5	496·7	+236·6	84·0	12	13	+0·7	8·5	6·4	+0·6	0	14	0	0	5	0	0	0	0	0	0	0	
Jagdalur (P.B.O.)	28·9	-0·7	32·4	28	22·1	+0·2	21·0	6	106·7	308·5	+44·8	62·3	11	17	+3·4	8·1	5·7	..	0	20	0	0	7	1	0	0	0	0	0	0	
Gujarat																															
Deesa . . .	30·9	..	35·0	26,30	23·6	..	22·0	26	140·5	303·8	..	73·0	16	11	..	9·1	7·2	..	0	20	0	0	7	0	0	0	0	0	0	0	
Radhanpur . . .	..	..	..	..	..	..	..	..	355·0	601·0	..	207·0	16	11	..	..	..	..	0	13	0	0	2	0	0	0	0	0	0	0
Idar . . .	30·1	..	34·6	26	23·6	..	21·0	16	107·4	380·4	..	132·2	15	12	..	7·9	5·6	..	0	19	0	0	8	0	0	0	0	0	0	0	
Ahmedabad . . .	30·9	-2·8	35·0	26	24·3	+0·2	22·1	16	214·7	561·3	+455·6	93·1	5	16	+10·8	8·4	6·7	-0·5	0	20	0	0	4	0	0	0	0	0	0	0	
Dohad . . .	28·9	-1·2	32·8	27	22·7	0	21·1	16	90·6	346·3	-203·3	124·2	4	12	+4·3	13·1	16·5	..	1	19	0	0	6	0	0	0	0	0	0	0	
Baroda . . .	31·0	-1·6	34·4	26	24·4	+0·7	22·7	15	46·6	347·2	..	..	..	..	..	..	..	..	..	..	0	0	1	0	0	0	0	0	0	0
Baroda (Acro-drome)	31·0	..	34·8	26	24·6	..	22·7	16	71·1	402·4	..	139·9	1	15	..	9·9	8·5	..	1	19	0	0	4	0	0	0	0	0	0	0	
Broach . . .	31·1	..	36·4	27	24·5	..	23·6	15	78·1	202·4	..	35·0	2	14	..	10·0	7·4	..	0	17	0	0	0	0	0	0	0	0	0	0	
Surat . . .	30·9	-0·6	35·3	26	24·5	+0·1	22·8	1	59·8	161·2	..	..	..	..	..	9·0	9·3	+3·2	..	..	0	0	1	0	0	0	0	0	0	0
Saurashtra and Kutch																															
Naliya . . .	29·2	..	30·9	4 days	24·1	..	21·3	26	432·0	597·9	..	240·1	6	14	..	17·6	13·1	..	0	19	0	0	3	1	0	0	0	0	0	0	
Bhuj (Aerodrome)	29·9	-3·5	33·3	29	..	..	..	..	114·6	252·4	+206·4	67·4	12	12	+9·8	15·2	12·9	-1·1	0	15	0	0	3	0	0	0	0	0	0	0
Kandla . . .	30·4	..	33·4	26	24·7	..	22·8	5	83·4	210·0	..	41·6	5	9	..	23·2	21·0	..	2	13	0	0	1	0	0	0	0	0	0	0	
Mandvi . . .	29·3	..	30·9	4	24·8	..	22·6	6	37·3	179·5	..	38·0	7	13	..	23·7	21·3	..	0	14	0	0	0	0	0	0	0	0	0	0	

(c) Mean of 28 days.

470 TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—SEPTEMBER, 1959 (BHADRA 10—ASVINA 8, 1981 SAKA)

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, kms. per hour			Weather phenomena—No. of days with											
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Highest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 a	20 b	21	22	23	24	25	26	27	28	29	
Interior Mysore (South)—Contd.																														
Bangalore (Central Observatory)	27.8	0	29.4	19	19.6	+1.1	18.7	15	34.9	265.0	+95.8	63.4	25	13	+4.1	14.9	12.2	+2.9	2	16	0	0	5	0	0	0	0	0	0	0
Bangalore (Aerodrome)	28.5	..	30.8	17,19	19.9	..	18.8	14	26.6	147.8	..	24.8	21	12	..	..	..	..	1	15	0	0	6	0	0	0	0	0	1	0
Kerala																														
Kozhikode . . .	28.9	-0.2	30.7	10	24.1	+0.4	22.9	16, 29	82.2	411.5	+209.8	62.6	28	19	+7.3	11.1	9.2	+2.1	0	21	0	0	5	0	0	0	0	0	0	0
Palghat . . .	29.5	..	32.0	19,24	23.2	..	21.4	17	108.2	336.9	..	71.2	29	21	..	15.0	11.4	..	0	22	0	0	3	0	0	0	0	0	0	0
Fort Cochin . .	28.6	+0.3	30.0	26	24.4	+0.3	22.3	16	105.2	377.1	+182.3	53.2	17	21	+7.3	11.4	8.2	+1.1	0	25	0	0	0	0	0	0	0	0	0	0
Cochin (Naval Air Station)	29.4	..	30.8	23	24.0	..	22.8	4 days	106.8	338.6	..	44.3	28	20	..	11.0	7.9	..	0	25	0	0	5	0	0	0	0	0	6	0
Alleppey . . .	29.1	..	30.2	24	24.0	..	22.2	15	70.0	266.8	..	46.6	28	17	..	14.3	10.6	..	0	18	0	0	3	0	0	0	0	0	0	0
Punalur . . .	31.3	..	33.7	23	22.9	..	22.3	2	10.5	391.8	..	69.6	20	18	..	7.4	4.2	..	0	18	0	0	4	0	0	0	0	0	0	0
Trivandrum . .	30.2	+0.5	32.2	23	23.5	+0.2	21.7	15	54.4	134.1	+19.6	45.4	25	8	-0.1	14.3	9.5	+0.2	1	19	0	0	5	0	0	0	0	0	0	0
Trivandrum (Aerodrome)	29.8	..	30.7	23	23.5	..	22.0	15	..	92.7	..	28.2	25	7	..	..	6.9	..	0	15	0	0	4	0	0	0	0	0	0	0
Arabian sea Islands																														
Minicoy*																														
Amini Divi*																														
Hill Stations excluding Kashmir																														
Walong (R)																														
Kohima . . .	23.9	..	27.8	1	18.4	..	16.6	8	111.6	193.4	..	25.0	6	14	..	..	..	..	0	18	0	0	0	12	0	0	0	0	0	0
Aijal . . .	24.9	..	27.6	28	19.4	..	17.8	15	78.0	301.3	..	34.3	4	21	..	1.4	0.7	..	0	23	0	0	0	0	0	0	0	0	0	0
Shillong . . .	23.3	-0.2	26.7	2	16.7	+0.3	15.0	24	135.4	239.8	-59.7	57.4	7	17	-0.3	1.6	1.0	-1.4	0	18	0	0	8	2	0	0	0	0	0	0
Cherrapunji . .	22.5	-0.4	25.5	1	18.1	0	16.9	8	121.0	731.0	-370.1	145.0	21	20	+0.8	8.2	7.5	+1.2	0	21	0	0	0	0	0	0	0	0	0	0
Darjiling (Raj Bhawan)	19.0	-0.2	22.5	1	14.4	0	12.7	9	97.2	397.3	-82.8	80.2	8	17	0	2.0	1.8	-0.5	0	18	0	0	4	23	0	0	0	0	0	0
Kalimpong . . .	24.9	+1.2	26.5	25	19.3	+0.5	17.8	9 days	0	309.9	+22.4	101.6	8	14	+1.3	6.0	4.2	-4.8	0	14	0	0	0	0	0	0	0	0	0	0
Katmandu (Hydromet.)	27.2	..	28.7	1	18.6	..	16.5	28	35.9	214.3	..	37.0	27	15	..	1.9	1.3	..	0	20	0	0	9	1	0	0	0	0	0	0
Mukteswar (Kumaon)	20.3	+0.5	24.7	1	14.1	+1.3	12.4	10	111.0	140.0	-61.4	26.0	19	14	+3.9	8.8	10.1	+2.1	0	21	0	0	9	19	0	0	0	0	0	0
Nainital . . .	20.9	..	23.9	1	15.6	..	13.3	25, 26	177.0	337.0	..	63.0	20	17	..	9.5	6.5	..	0	21	0	0	0	0	0	0	0	0	0	0
Joshimath . . .	24.2	..	26.2	17	16.2	..	13.7	28	2.2	136.5	..	43.0	10	9	..	6.8	4.6	..	0	11	0	0	1	0	0	0	0	0	0	0
Badrinath†. . .	15.7	..	17.2	5 days	9.1	..	7.8	19	..	82.9	..	16.0	9	10	..	..	..	..	0	15	0	0	0	0	0	0	0	0	0	0
Lokpal . . .	9.3	..	10.9	14	3.8	..	1.1	30	..	257.0	..	28.4	5	16	..	..	..	..	1	23	..	..	..	..	..	..	..	..	..	..
Mussooree . . .	19.6	-0.1	22.4	27	14.6	+0.5	12.9	28	130.7	417.7	+165.0	104.2	14	18	+5.2	6.7	5.7	-0.4	0	20	0	0	13	9	0	0	0	0	0	0
Simla . . .	19.7	-0.5	23.4	1	14.6	+1.1	11.7	24	164.0	281.9	+112.2	43.2	19	14	+4.7	3.2	2.7	+1.0	0	19	0	0	2	0	0	0	0	0	0	0
Dharampore . . .	..	..	..	..	..	..	..	..	..	238.3	+57.7	50.0	9	15	+7.5	..	..	..	0	19	..	..	..	..	..	..	..	..	..	..
Dalhousie . . .	22.7	..	26.2	1	13.4	..	14.5	9, 16	152.0	56.6	+582.6	274.0	7	12	+3.7	1.4	1.5	..	0	12	0	0	0	0	0	0	0	0	0	0
Dharamshala . .	25.7	..	28.1	1	19.8	..	17.3	24	337.8	890.9	..	157.2	18	21	..	2.2	1.7	..	0	25	0	0	9	0	0	0	0	0	0	0
Abu . . .	22.9	-1.1	27.4	29	18.2	0	15.7	24	204.7	455.1	+217.1	94.0	10	16	+8.4	2.2	1.7	-7.0	0	21	0	0	2	8	0	0	0	0	0	0
Pachmarhi . . .	25.1	-0.2	28.3	26	19.4	+0.5	17.8	16, 20	125.4	519.2	+158.8	163.4	14	18	+4.9	8.3	7.9	+0.8	2	22	0	0	9	15	0	0	0	0	0	0
Mahabaleshwar .	20.5	+0.6	24.9	24,25	16.0	0	14.1	20	480.2	126.6	+536.2	159.2	4	23	+0.4	14.5	15.3	+2.7	1	23	0	0	5	25	0	0	0	0	0	0
Nandi Hills . .	20.3	..	22.5	15	14.8	..	13.9	5	..	207.0	..	29.0	17	12	..	..	20.2	..	0	12	0	0	14	30	0	0	0	0	0	0
Mercaia . . .	21.9	-0.2	26.0	21	17.1	+0.5	16.0	16 days	252.8	593.6	+312.2	60.0	19	26	+7.8	12.8	12.4	+4.0	0	27	0	0	0	0	0	0	0	0	0	0
Kodaikanal . . .	18.2	+1.1	20.8	5	11.4	+0.3	10.0	19	158.3	261.8	+16.9	52.2	19	13	+1.1	12.1	12.1	+0.4	0	19	0	0	7	2	0	0	0	0	0	0
Ootacamund . .	18.1	0	21.4	25	9.6	-1.0	7.2	9	104.4	159.3	+11.2	47.6	22	14	+2.0	8.3	5.7	+0.1	0	21	0	0	0	0	0	0	0	0	0	0
Coomoor . . .	22.2	+0.5	24.1	30	14.4	+0.9	11.9	11	..	115.9	+25.5	57.0	19	6	-1.0	..	6.1	+0.5	0	13	0	0	0	0	0	0	0	0	0	0
Sikkim																														
Lachen . . .	(i) 17.8	..	..	..	6.8	..	4.4	1,7	..	133.6	..	25.0	21	12	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..
Ceylon																														
Colombo . . .	29.3	-0.7	30.0	12	24.3	-0.5	22.7	19	76.0	243.1	+99.1	38.3	24	20	+11.2	..	..	..	0	24	0	0	3	0	0	0	0	0	0	0
Trincomalee . .	34.4	+1.1	37.0	4	23.7	+0.9	22.8	16	46.8	80.9	-17.9	56.4	16	5	-0.4	..	..	..	0	8	0	..	3	0	0	0	0	0	0	0
Batticaloa . . .	32.5	..	37.2	30	25.5	..	24.1	21	24.1	24.6	..	14.7	21	2	..	..	..	..	0	6	0	0	7	0	0	0	0	0	0	0
Hambantota . .	28.9	-1.4	32.6	2	24.4	0	22.8	15	63.9	127.7	+80.1	32.3	2	13	+8.2	..	..	..	0	16	0	0	0	0	0	0	0	0	0	0
Mannar . . .	31.2	..	34.2	18	26.5	..	25.0	17	13.2	16.3	..	12.2	25	2	..	..	..	..	0	5	0	0	1	0	0	0	0	0	0	0

(R) Register not received.

(i) Mean of 2½ days.

*Data given as addenda in "December, 1959 issue."

†Observations for 23 days.

TABLE II-SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—SEPTEMBER, 1959 (BHADRA 10—ASVINA 8, 1881 SAKA) 471

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, kms. per hour			Weather phenomena—No. of days with													
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2mm.)	Precipitation (> 0.3mm or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall			
																														20a)	20b)	21
Hydrometeorological Observatories.																																
Damodar Catchment.																																
Bokaro . . .	30.3	..	33.1	27	24.0	..	22.6	19	163.8	288.4	..	69.2	8	17	..	10.6	8.0	..	0	23	0	0	17	0	0	0	0	0	0	0	0	0
Hazaribagh . . .	28.0	..	30.4	27	22.3	..	21.2	28	169.9	268.0	..	49.7	12	15	..	10.5	6.8	..	0	22	0	0	7	0	0	0	0	0	0	0	0	0
Tilaiya . . .	29.8	..	32.2	27	24.2	..	22.2	16	130.5	214.3	..	36.6	9	16	..	13.9	10.4	..	0	18	0	0	0	0	0	0	0	0	0	0	0	0
Ramgarh . . .	30.4	..	33.4	16	23.9	..	22.8	10	..	308.6	..	54.0	9	16	..	4.6	2.5	..	0	22	0	0	0	0	0	0	0	0	0	0	0	0
Panchet Hills . . .	31.2	..	33.8	22	25.4	..	23.7	11	30	238.1	338.5	..	78.5	9	17	..	10.9	8.8	..	0	21	0	0	20	0	0	0	0	0	0	0	0
Durgapur . . .	31.5	..	34.4	22	24.7	..	22.8	19	..	468.9	..	89.0	18	16	..	15.4	12.6	..	0	22	0	0	0	0	0	0	0	0	0	0	0	0
Mahanadi Catchment.																																
Hirakud . . .	31.4	..	34.6	25	25.2	..	24.0	10	168.3	304.8	..	89.9	10	13	..	1.1	0.7	..	0	14	0	0	11	0	0	0	0	0	0	1	0	
Khijrawan* . . .																																
Sonepur . . .	31.0	..	33.9	24	25.2	..	22.6	7	..	410.7	..	83.4	10	16	..	..	6.2	..	0	17	..	..	..	..	..	..	..	..	..	..	..	..
Ginabhar . . .	30.7	..	33.4	22	22.9	..	21.9	21	..	201.4	..	35.8	7,9	16	..	..	..	..	0	20	..	..	..	..	..	..	..	..	..	..	..	..
Bhimkund . . .	30.2	..	33.2	22	23.4	..	22.4	1028	173.7	266.1	..	59.8	10	15	..	3.1	1.7	..	1	23	0	0	11	0	0	0	0	0	0	0	0	0
Narbada Catchment.																																
Punasa . . .	30.6	..	35.3	28	22.6	..	20.1	16	140.0	395.0	..	97.6	15	12	..	..	..	..	0	15	0	0	0	0	0	0	0	0	0	0	0	0
Bagra Tawa . . .	30.4	..	33.8	24	23.1	..	21.9	16	36.4	176.0	..	43.6	9	13	7.2	7.2	4.9	..	0	16	0	0	0	0	0	0	0	0	0	0	0	0
Thikri . . .	31.4	..	35.1	25	23.4	..	21.2	16	..	403.8	..	206.0	15	8	..	..	..	..	0	13	0	0	0	0	0	0	0	0	0	0	0	0
Sabarnati Catchment.																																
Jhadol . . .	28.1	..	31.4	1,27	21.2	..	19.0	23	..	263.3	..	82.0	15	7	..	..	..	..	0	7	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi . . .	30.5	..	34.7	26	23.6	..	20.8	27	146.0	430.9	..	83.0	15	11	..	..	..	..	0	12	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment.																																
Mukhin . . .	22.7	..	25.2	5	16.1	..	14.6	11,	86.9	357.4	..	101.1	8	18	..	..	..	..	1	26	..	..	..	..	..	..	..	..	..	..	..	..
Tehri . . .	31.7	..	34.3	5,6,17	22.0	..	18.9	24	23.2	112.4	..	40.0	8	11	..	3.6	2.4	..	1	14	0	0	5	1	0	0	0	0	0	0	0	
Gandak Catchment																																
Gorkha . . .	..	..	..	..	..	..	..	..	35.5	224.4	..	52.1	8	15	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..
Pokhara . . .	28.6	..	30.7	2	21.1	..	18.8	9	74.7	681.9	..	108.5	6	19	..	..	..	..	0	23	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot . . .	29.3	..	31.3	1	20.7	..	18.9	16	17.0	322.8	..	111.8	6	14	..	..	..	..	0	21	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom . . .	23.2	..	26.8	23	..	..	..	..	0	16.0	..	7.1	2	3	..	..	..	..	0	6	..	..	..	..	..	..	..	..	..	..	..
Timure . . .	26.3	..	30.0	17	16.3	..	13.2	24	0	100.9	..	28.5	4	9	..	..	..	..	0	13	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																																
Dailekh . . .	25.2	..	27.5	1	18.8	..	17.3	23	26.2	217.7	..	34.3	9	18	..	..	..	..	0	17	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment.																																
Dandeldhura . . .	23.0	..	25.8	1	(b) 16.1	..	13.4	27	39.2	114.5	..	38.6	9	10	..	..	..	..	0	15	..	..	..	..	..	..	..	..	..	..	..	..
Butwal . . .	31.8	..	34.4	1	24.0	..	22.1	23	118.8	547.7	..	105.9	26	18	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment.																																
Katmandu† . . .																																
Kosi Catchment.																																
Chautara . . .	26.6	..	28.2	1	17.9	..	15.3	27	86.7	342.6	..	50.3	16	19	..	..	..	..	0	21	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga* . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	18	0	0	3	0	0	0	0	0	0	0	0
Barahkhetra . . .	30.7	..	33.9	30	23.7	..	22.0	8	150.9	381.2	..	100.2	20	18	..	7.3	4.4	..	0	12	..	..	..	..	..	..	..	..	..	..	..	..
Angbung . . .	(f) 28.3	..	(f) 31.3	1	18.6	..	17.2	28	30	10.0	124.4	..	32.0	6	8	..	..	..	0	12	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	24.3	..	27.7	4	16.1	..	14.6	23	26.7	292.6	..	84.6	5	17	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur . . .	23.9	..	27.2	4	..	..	..	..	37.0	194.0	..	45.0	6	12	..	..	..	..	0	16	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola . . .	16.2	..	18.4	1,16,17	8.0	..	6.7	20	24.1	165.9	..	27.0	19	14	..	..	..	..	0	22	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok . . .	28.1	..	30.4	20	17.5	..	15.6	24	23.6	313.8	..	40.2	8	11	..	..	..	..	0	25	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	27.5	..	30.4	1	19.6	..	17.4	29	10.0	170.6	..	34.2	29	10	..	..	..	..	0	17	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment.																																
Gangtok . . .	22.0	..	24.7	4 days	15.4	..	13.2	27	93.4	501.2	..	80.1	7	21	..	4.0	3.2	..	0	17	0	0	7	19	0	0	0	0	0	0	0	0
Gayzing . . .	26.1	..	30.0	1,4	(b) 17.0	..	15.0	23	22.1	306.4	..	50.2	6	18	..	..	..	..	0	21	0											

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Cloud amount (Okta)			Wind speed (Kms. p.h.)			No. of observations														
			At mean sea level or height in ft. m. nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.	Relative humidity %	Departure from normal	Mean amount	Departure from normal	Mean wind speed Kms. per hour	62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
																		19	20	21	22	23	24	25	26	27	28		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Bay Islands																													
Maya Bandar	0830	28	1008.4	1005.3	..	27.0	25.6	25.0	31.7	89	..	3.8	..	7.7	0	1	21	0	0	0	0	2	6	5	0	8	9	0	
	1730	"	1006.3	1003.2	..	26.0	24.9	24.4	31.6	91	..	6.5	..	9.9	0	2	25	0	0	0	0	0	15	6	0	3	6	0	
Long Island	0830	33	1008.7	1005.8	..	26.9	25.6	24.7	31.6	89	..	6.1	..	0.8	0	0	4	0	0	0	0	0	4	0	0	26	0	0	
	1730	"	1006.1	1003.2	..	26.4	24.9	24.2	30.2	88	..	6.8	..	0.6	0	0	3	0	0	0	0	0	3	0	0	27	0	0	
Port Blair	0530	79	1007.5	998.5	..	24.5	24.2	24.0	29.8	97	..	6.8	..	7.8	0	1	26	0	0	0	0	0	20	7	0	3	0	0	
	0830	"	1009.0	1000.1	-0.5	26.2	25.1	24.7	31.1	91	+7	7.0	+0.8	10.5	0	1	27	0	0	0	0	1	16	11	0	2	0	0	
	1130	"	1007.8	998.9	..	27.3	25.7	24.8	31.6	86	..	7.0	..	15.3	0	8	21	0	0	0	1	2	16	10	0	1	0	0	
	1730	"	1006.6	997.7	..	25.7	24.9	24.5	31.1	93	..	6.5	..	10.3	0	2	28	0	0	0	0	0	17	13	0	0	0	0	
	2330	"	1008.3	999.3	..	24.8	24.3	24.1	29.9	96	..	6.2	..	10.2	0	2	26	0	0	0	0	0	18	10	0	2	0	0	
Car Nicobar	0830	10	1009.6	1008.4	..	27.5	25.3	24.2	30.4	83	..	6.0	..	7.7	0	1	28	0	0	0	0	0	19	10	0	1	0	0	
	1730	"	1007.1	1005.8	..	26.2	24.5	23.7	29.4	87	..	5.6	..	3.0	0	0	16	0	0	0	0	0	12	4	0	14	0	0	
Nancowry	0830	26	1010.4	1007.5	..	27.3	25.0	24.1	29.9	82	..	6.1	..	9.3	0	1	23	0	0	0	0	3	15	6	0	6	0	0	
	1730	"	1008.2	1005.3	..	26.6	24.5	23.6	29.1	83	..	6.7	..	11.4	0	1	25	0	0	0	0	1	19	6	0	4	0	0	
Kondul	0830	8	1010.3	1009.4	..	27.6	25.3	24.2	30.5	83	..	6.4	..	5.0	0	1	26	0	1	0	26	0	0	0	0	9	0	0	
	1730	"	1008.0	1007.1	..	26.2	24.6	23.9	29.5	87	..	6.9	..	2.6	0	0	16	0	0	0	18	0	0	0	0	14	0	0	
Assam (Including Manipur, Tripura)																													
Pasighat	0830	157	1007.2	989.6	..	26.3	23.5	22.0	26.7	79	..	4.7	..	6.8	0	8	21	6	2	5	0	0	1	1	9	6	0	0	
	1730	"	1003.0	985.5	..	26.6	24.7	23.9	29.6	85	..	4.4	..	2.8	0	0	12	4	0	1	0	1	0	0	0	6	18	0	
Digboi	0830	..	..	..	..	26.9	24.5	23.2	23.3	81	..	5.5	..	3.1	0	0	30	1	7	8	8	2	0	4	5	0	0	0
	1730	..	..	..	..	28.5	25.7	24.6	24.4	80	..	6.0	..	3.7	0	0	30	8	10	8	4	0	9	1	4	0	0	
Dibrugarh	0830	106	1006.7	994.8	-1.1	27.3	24.8	23.6	29.2	81	-3	4.6	-1.3	3.1	0	0	23	8	8	7	0	2	1	0	2	7	0	0	
	1730	"	1002.7	990.8	..	27.6	25.4	24.4	30.6	83	..	4.4	..	1.0	0	0	7	2	0	8	0	2	0	0	0	23	0	0	
Dibrugarh (Mohandbari Aerodrome)	0230	111	1004.7	992.1	..	24.3	23.3	23.1	28.8	98	..	5.6	..	1.2	0	0	6	1	3	1	0	1	0	0	0	24	0	0	
	0530	"	1005.6	992.9	..	23.8	23.1	22.7	27.8	93	..	3.7	..	2.1	0	0	8	1	4	2	0	0	1	0	0	22	0	0	
	0830	"	1006.2	994.6	..	27.0	24.6	23.5	29.0	82	..	3.1	..	8.1	0	1	15	4	7	4	0	0	1	0	0	14	0	0	
	1130	"	1005.2	992.9	..	29.1	25.3	23.4	29.2	78	..	5.4	..	4.7	0	0	23	3	9	6	2	2	0	0	1	7	0	0	
	1730	"	1002.9	990.3	..	27.6	25.2	24.2	30.2	79	..	5.0	..	2.2	0	0	7	0	3	1	2	0	0	1	0	23	0	0	
	2330	"	1005.7	993.1	..	24.8	23.8	23.3	28.8	92	..	3.1	..	2.4	0	0	9	0	7	0	0	1	0	1	0	21	0	0	
North Lakhimpur	0830	102	1006.5	995.0	..	27.6	25.0	23.9	29.6	81	..	5.8	..	5.0	0	0	29	4	6	6	7	1	2	2	1	1	0	0	
	1130	"	1005.0	993.6	..	29.9	25.9	24.2	30.3	72	..	5.0	..	8.3	0	2	27	0	5	6	7	6	4	0	1	1	0	0	
	1730	"	1002.3	991.2	..	27.8	25.8	25.0	31.7	85	..	4.4	..	3.7	0	1	19	1	3	5	8	2	1	3	2	10	0	0	
Sibsagar	0830	97	1007.2	996.2	-0.6	27.0	25.3	24.4	31.0	86	-1	6.0	-0.7	3.7	0	0	24	5	9	2	2	1	4	0	1	6	0	0	
	1730	"	1002.7	991.9	..	28.4	25.8	24.9	31.2	81	..	4.8	..	3.8	0	0	19	3	10	1	1	1	2	0	1	11	0	0	
Jorhat	0530	90	1004.9	994.7	..	24.4	24.0	23.7	29.5	96	..	6.1	..	..	0	0	16	4	4	1	0	4	2	0	1	14	0	0
	0830	"	1006.3	996.2	..	27.2	25.0	23.9	29.9	83	..	5.7	..	..	0	3	22	5	7	2	0	7	3	0	1	5	0	0
	1130	"	1004.9	994.9	..	29.6	25.8	24.1	30.4	73	..	8.4	..	..	0	2	26	7	6	1	1	4	4	1	4	2	0	0
	1730	"	1002.1	992.1	..	27.8	25.6	24.7	30.9	84	..	4.9	..	..	0	0	12	2	5	1	1	0	1	1	1	18	0	0
Golaghat	0830	27.2	25.3	24.0	30.6	85	..	6.7	0	0	4	0	0	0	4	0	0	0	0	0	26	0	0
	1730	29.4	26.8	25.2	33.2	83	..	6.9	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0
Gohpur	0830	26.9	26.2	26.0	35.3	94	0	0	30	0	0	30	0	0	0	0	0	0	0	0	0
	1730	..	..	..	..	28.4	27.7	27.3	36.3	94	..	..	..	..	0	0	30	1	3	10	1	9	0	6	0	0	0	0
Tezpur	0830	79	1007.5	998.6	-0.6	27.3	25.3	24.6	31.0	85	-1	3.1	-0.7	1.0	0	0	7	0	3	2	0	0	1	0	0	23	1	0	
	1730	"	1003.0	994.1	..	28.3	25.9	24.3	31.4	80	..	5.0	..	0.5	0	0	9	0	1	0	0	0	1	0	0	27	1	0	
Tezpur (P.B.O.)	0230	78	1004.8	995.9	..	25.2	24.3	24.0	30.2	94	..	4.2	..	3.3	0	0	19	1	2	4	1	0	2	3	0	17	0	0	
	0530	"	1005.5	996.6	..	24.7	24.0	23.6	29.1	89	..	3.8	..	3.2	0	0	15	0	4	2	4	3	2	0	0	15	0	0	
	0830	"	1007.1	998.2	..	27.3	25.0	23.9	29.8	82	..	3.5	..	4.4	0	1	21	1	3	8	2	2	5	0	0	9	0	0	
	1130	"	1005.4	996.6	..	29.4	25.7	24.0	30.0	73	..	3.0	..	3.4	0	0	23	1	5	7	3	2	5	0	0	7	0	0	
	1730	"	1002.9	994.1	..	28.1	25.7	24.6	31.9	82	..	4.9	..	3.4	0	1	13	0	3	4	0	0	4	1	2	16	0	0	
	2330	"	1005.8	996.9	..	25.7	24.8	24.3	30.7	82	..	4.2	..	8.3	0	0	16	0	3										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—SEPTEMBER, 1959. (BHADRA 10,—ASVINA 8, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity%	Departure from normal	Cloud amount (Oktas)		Mean wind speed in Kms. per hour	Wind speed (Kms. p.h.).			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobatic level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable.	
			4	5	6	7	8	9				10	11		12	13	14											15
Assam (Including Manipur, Tripura) —Contd. Gauhati	0830	55	1006.3	1006.0	-1.0	27.1	25.3	24.2	30.8	85	+8	5.8	+0.4	2.5	0	0	25	0	11	3	1	0	0	0	10	5	0	
	1730	"	1002.5	996.2	..	28.6	25.6	24.5	30.2	79	..	6.1	..	1.5	0	0	15	1	4	6	1	0	1	0	2	15	0	
Gauhati (Bhorjor Aerodrome)	0230	54	1004.3	998.1	..	25.2	24.5	24.2	30.0	95	..	5.8	..	2.2	0	0	9	1	2	2	0	1	3	0	0	21	0	
	0530	"	1004.7	998.3	..	24.9	24.3	23.9	29.5	95	..	6.1	..	2.1	0	0	10	0	4	4	0	2	0	0	0	20	0	
	0830	"	1006.2	1000.8	..	28.0	25.6	24.6	30.7	82	..	5.9	..	7.1	0	0	22	3	12	4	0	1	2	0	0	8	0	
	1130	"	1004.7	998.7	..	30.8	26.3	24.8	30.7	74	..	5.6	..	8.8	0	0	29	10	13	5	0	0	0	0	1	1	0	
Rangiya	1730	"	1002.3	996.2	..	28.1	25.9	24.9	30.6	83	..	5.9	..	3.2	0	0	14	0	5	3	0	1	2	1	2	16	0	
	2330	"	1005.2	999.1	..	25.9	25.0	24.3	31.0	93	..	5.4	..	3.3	0	0	15	1	5	3	0	1	3	2	0	15	0	
	0830	..	..	..	..	28.0	25.5	24.5	30.6	82	..	5.0	..	5.4	0	0	29	1	6	12	3	0	1	2	2	1	0
	1730	..	..	..	..	29.2	26.1	24.7	31.3	78	..	4.6	..	4.6	0	1	23	1	3	10	2	1	1	4	2	6	0
Goalpara	0830	38	1005.5	1001.1	..	27.0	25.4	24.6	31.2	88	..	6.0	..	3.5	0	0	28	1	10	1	2	1	6	2	5	2	0	
	1730	"	1001.6	997.1	..	30.2	26.9	25.1	32.7	77	..	5.2	..	2.5	0	0	20	0	5	0	4	5	2	1	3	10	0	
Dhubri	0830	35	1006.6	1002.6	+0.7	27.4	25.3	24.6	31.0	86	+1	4.6	-0.6	5.1	0	0	22	2	8	4	4	4	0	0	0	8	0	
	1730	"	1003.0	999.0	..	27.9	25.7	24.7	31.3	86	..	5.2	..	2.8	0	0	16	0	6	3	1	1	5	0	0	14	0	
Dhubri (Rupai Aerodrome)	0530	36	1003.8	999.7	..	24.2	23.7	23.5	28.8	95	..	5.3	..	3.6	0	1	11	2	2	4	2	2	0	0	0	18	0	
	0830	"	1005.2	1001.3	..	27.6	25.3	24.5	30.5	83	..	5.7	..	6.8	0	1	24	1	3	10	6	4	1	0	0	5	0	
	1130	"	1004.4	1000.4	..	29.2	25.5	24.6	29.6	72	..	5.8	..	8.6	0	0	28	0	1	11	7	4	1	2	2	2	0	
	1730	"	1001.5	997.5	..	27.7	25.6	24.7	31.0	84	..	5.4	..	4.3	0	1	17	2	0	3	4	6	3	0	0	12	0	
Tura	0830	370	1007.3	966.1	..	25.4	24.2	23.6	29.2	91	..	6.2	..	2.9	0	0	21	2	2	5	0	2	7	3	2	9	0	
	1730	"	1004.3	962.5	..	26.8	25.3	24.1	31.0	87	..	6.8	..	3.7	0	0	25	1	6	2	4	7	2	3	0	5	0	
Agartala	0230	16	1003.5	1001.7	..	25.1	24.6	24.4	30.4	93	..	6.1	..	6.2	0	1	24	0	2	7	11	5	0	0	0	5	0	
	0530	"	1003.9	1002.1	..	24.8	24.3	23.9	29.9	95	..	6.7	..	6.7	0	0	25	0	2	8	10	5	0	0	0	5	0	
	0830	"	1005.5	1003.7	..	27.2	25.4	24.6	31.3	86	..	6.7	..	10.6	0	1	27	1	2	5	11	9	0	0	0	2	0	
	1130	"	1004.5	1002.7	..	29.0	26.1	25.2	31.5	77	..	6.8	..	11.5	0	1	29	2	1	3	11	9	3	0	1	0	0	
	1730	"	1002.1	1000.3	..	27.3	25.8	25.2	31.9	87	..	6.3	..	7.5	0	1	24	1	2	4	6	8	2	0	2	5	0	
	2330	"	1004.6	1002.8	..	25.3	24.9	24.7	31.2	95	..	5.9	..	7.3	0	0	24	0	1	5	10	8	0	0	0	6	0	
Kailashar(C.W.O.)	0530	29	1005.7	1002.8	..	25.4	24.1	23.5	28.9	89	..	6.8	..	2.6	0	0	16	0	3	2	3	4	1	0	1	14	0	
	0830	"	1006.9	1003.6	..	27.2	25.0	24.0	29.9	84	..	7.1	..	4.8	0	0	21	1	4	2	3	9	1	1	0	9	0	
	1130	"	1005.5	1002.3	..	29.7	26.3	24.9	33.2	76	..	6.7	..	6.9	0	0	26	0	11	1	6	5	0	2	1	4	0	
	1730	"	1003.2	999.9	..	28.1	25.8	24.8	31.4	85	..	6.4	..	3.7	0	0	17	1	8	0	3	2	1	0	2	13	0	
Silchar	0830	29	1006.8	1003.5	-1.2	27.6	25.2	24.0	30.2	82	-2	5.6	-0.2	2.4	0	0	22	0	8	5	3	2	1	1	2	8	0	
	1730	"	1003.9	999.7	..	28.7	25.8	24.6	30.9	79	..	4.8	..	0.9	0	0	8	1	1	2	1	1	1	1	0	22	0	
Silchar (Kumbhigram Aerodrome)	0530	97	1003.9	999.0	..	24.2	23.8	23.5	29.3	97	..	7.0	..	7.3	0	0	21	0	4	14	0	1	0	1	1	9	0	
	0830	"	1005.2	994.4	..	27.1	25.0	23.9	30.0	84	..	6.6	..	5.1	0	0	26	0	3	13	3	2	2	1	3	4	0	
	1130	"	1003.9	993.2	..	29.7	25.9	24.0	30.4	78	..	6.3	..	5.7	0	1	21	0	2	6	2	3	4	1	4	8	0	
	1730	"	1001.4	990.6	..	28.1	25.2	23.9	29.8	79	..	5.8	..	4.1	0	0	21	1	2	6	0	2	3	7	0	9	0	
Imphal	0530	801	1007.9	919.9	..	21.4	20.9	20.6	24.3	98	..	6.3	..	0.9	0	0	3	1	0	0	0	1	1	0	0	27	0	
	0830	"	1008.8	921.8	..	24.6	22.3	21.4	25.4	82	..	6.4	..	2.8	0	0	16	0	0	2	3	4	6	1	0	14	0	
	1130	"	1006.8	920.0	..	26.6	22.9	21.1	25.3	72	..	6.2	..	5.6	0	0	24	0	1	1	3	6	6	3	8	6	1	
	1730	"	1004.3	917.8	..	24.5	22.2	21.1	25.2	81	..	6.2	..	2.8	0	0	14	2	1	0	0	2	6	1	2	16	0	
	2330	"	1007.3	920.9	..	22.4	21.6	21.1	25.2	95	..	5.6	..	2.0	0	0	9	1	1	0	0	11	5	1	0	21	0	
Haflong	0830	682	1006.3	931.3	..	23.1	21.7	21.0	24.9	88	..	5.5	..	8.6	0	1	29	3	3	0	2	1	10	0	1	0	0	
	1730	"	1002.2	928.9	..	24.8	22.8	21.2	25.2	83	..	3.5	..	8.1	0	0	30	4	4	1	1	1	14	0	5	0	0	
Lumding	0830	149	1006.9	990.2	..	27.0	25.2	24.3	30.7	87	+2	6.4	..	1.8	0	0	13	0	4	0	7	1	0	0	1	17	0	
	1730	"	1002.3	986.0	..	27.8	25.8	24.6	31.0	81	..	8.8	..	1.0	0	0	8	0	3	0	3	0	1	0	1	22	0	
Sub-Himalayan West Bengal	Cooch Behar (C.W.O.)	0830	43	1006.0	1001.1	..	27.6	25.1	23.9	31.3	81	..	5.2	..	10.3	0	4	24	1	7	13	6	1	0	0	2	0	
		1130	"	1004.8	1000.0	..	29.3	25.9	24.4	30.6	75	..	5.6	..	12.1	0	6	22	0	3	14	4	3	2	1	0	2	1
		1730	"	1002.2	997.8	..	28.8	25.9	24.8	33.2	81	..	4.8	..	4.3	0	2	14	1	3	6	3	3	0	0	0	14	0
Jalpaiguri	0830	83	1006.4	997.0	-0.6	26.3	24.4	23.4	29.0	84	-8	4.8	+0.1	9.0	0	3	25	2	13	12	1	0	0	0	0	2	0	
	1730	"	1002.3	993.2	..	28.8	25.3	23.9	30.0	75	..	4.2	..	8.6	0	2	27	4	3	10	5							

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Kms. p.h.)			No. of observations										
			At mean sea level or height in f.p.m. of nearest standard isobaric level.	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs			Mean amount	Departure from normal	Mean wind speed, in Kms. per hour.	62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Sub-Himalayan (West-Bengal)—Contd. Malda	0830	31	1005.0	1001.5	-1.0	28.4	26.1	25.1	32.0	83	+2	6.4	+2.2	12.4	0	4	26	1	6	10	6	3	1	3	0	0	0
	1730	"	1001.4	997.9	"	28.9	26.1	24.9	31.6	79	"	5.7	"	9.1	0	4	21	1	3	11	6	3	0	1	0	5	0
Gangetic West Bengal Dum Dum	0230	6	1001.9	1001.2	"	26.4	25.7	25.5	32.3	94	"	5.7	"	5.9	0	1	25	2	1	6	6	6	2	2	1	4	0
	0530	"	1002.2	1001.5	"	26.1	25.5	25.4	32.3	95	"	6.5	"	4.4	0	1	18	2	2	6	5	2	1	1	0	11	0
	0830	"	1003.8	1003.1	"	28.4	26.4	25.6	32.8	85	"	6.7	"	8.2	0	1	29	3	2	7	8	5	3	2	0	0	0
	1130	"	1003.1	1002.4	"	30.0	26.8	25.5	32.6	78	"	6.6	"	9.9	0	2	28	1	2	8	12	2	2	3	0	0	0
	1730	"	1000.7	1000.0	"	27.7	26.1	25.4	32.5	87	"	7.2	"	7.2	0	1	24	0	5	3	8	5	2	2	0	5	0
	2330	"	1003.0	1002.3	"	26.8	25.9	25.6	32.7	93	"	5.8	"	8.6	0	2	24	1	3	3	10	6	1	1	1	4	0
Calcutta	0830	6	1003.6	1002.9	-2.4	28.1	26.2	25.3	32.5	85	+2	6.1	+0.4	7.1	0	1	26	1	2	7	8	2	4	2	1	3	0
	1130	"	1002.9	1002.3	"	29.8	26.6	25.3	32.3	77	"	6.5	"	8.0	0	1	28	0	3	8	6	3	6	1	2	1	0
	1730	"	1000.5	999.8	"	27.9	25.9	25.0	31.7	84	"	6.8	"	5.2	0	1	19	0	1	2	8	4	4	1	0	10	0
Barrackpore	0530	7	1002.7	1001.9	"	25.9	25.4	25.1	31.8	95	"	6.5	"	3.8	0	0	18	0	3	6	6	0	1	2	0	12	0
	0830	"	1004.3	1003.5	"	28.5	26.4	25.4	32.8	84	"	6.4	"	9.1	0	2	25	1	3	10	6	1	4	1	1	3	0
	1130	"	1003.5	1002.8	"	29.9	26.6	25.1	32.0	77	"	6.6	"	13.6	0	4	26	0	3	11	5	1	3	5	2	0	0
	1730	"	1001.1	1000.3	"	27.6	26.0	25.3	32.5	87	"	7.1	"	7.6	0	2	22	0	1	6	6	3	4	4	0	6	0
	2330	"	1003.6	1002.8	"	26.5	26.0	25.7	32.9	95	"	6.1	"	7.0	0	2	20	1	2	6	6	3	1	2	1	8	0
Saugor Island	0830	3	1003.2	1002.9	-2.4	28.4	26.8	26.3	33.8	88	+7	5.8	-0.3	19.0	1	10	19	2	4	3	4	9	6	1	1	0	0
	1730	"	1000.1	999.8	"	28.1	26.4	25.8	33.0	87	"	6.1	"	20.1	1	10	19	0	2	2	5	11	8	1	1	0	0
Sandheads	0530	10	1001.4	1000.3	"	27.8	25.9	25.2	31.9	85	"	6.6	"	20.6	1	13	13	2	2	0	0	7	14	2	0	3	0
	0830	"	1002.9	1001.8	-3.0	28.4	26.3	25.5	32.4	84	+5	6.3	+1.3	21.0	1	14	13	2	2	1	0	6	15	2	0	2	0
	1130	"	1002.3	1001.2	"	28.9	26.5	25.5	32.7	82	"	6.5	"	22.2	1	13	14	2	2	0	2	5	14	3	0	2	0
	1730	"	999.8	998.7	"	28.6	26.3	25.4	32.5	82	"	6.9	"	22.0	1	14	13	1	2	0	0	8	16	1	0	2	0
	2330	"	1002.3	1001.2	"	27.9	26.2	25.5	32.7	86	"	5.5	"	21.6	1	16	11	0	2	1	1	6	17	1	0	2	0
Contai	0830	11	1003.3	1002.1	"	28.3	26.2	25.6	32.2	85	"	6.6	"	5.2	0	1	20	3	1	1	5	3	8	0	0	9	0
	1730	"	1000.5	999.3	"	27.5	25.8	25.1	31.9	86	"	6.7	"	4.4	0	1	20	1	0	1	4	10	5	0	0	9	0
Midnapore	0830	45	1003.7	998.6	-2.1	28.3	26.0	25.0	31.7	83	+1	5.5	+1.0	3.2	0	1	18	0	5	2	3	4	3	2	0	11	0
	1730	"	1000.2	995.1	"	28.2	26.0	25.1	31.9	85	"	5.8	"	5.1	0	1	24	0	3	0	7	7	7	0	1	5	0
Purulia	0830	255	1004.0	975.8	"	26.7	24.8	23.9	29.2	85	"	6.4	"	6.4	0	0	28	6	5	2	8	2	1	0	4	2	0
	1730	"	1000.6	972.5	"	26.9	24.9	24.0	30.0	84	"	7.5	"	3.2	0	0	21	0	5	2	6	2	1	1	4	9	0
Burdwan	0830	32	1004.2	1000.5	-1.8	28.1	26.5	26.0	33.3	87	+4	3.6	-1.8	0.4	0	0	4	0	0	0	0	0	3	1	0	26	0
	1730	"	1001.1	997.6	"	28.7	26.7	25.7	33.3	86	"	5.1	"	0.7	0	0	4	0	0	0	0	3	0	0	1	26	0
Krishnagar	0830	15	1004.8	1003.1	-1.1	28.5	26.5	25.9	33.0	85	+4	5.2	-0.2	3.2	0	0	30	2	2	9	7	8	1	0	1	0	0
	1730	"	1001.0	999.3	"	28.4	26.3	25.6	32.4	85	"	4.9	"	3.2	0	0	30	0	0	5	4	21	0	0	0	0	0
Asansol	0230	126	1002.0	987.8	"	25.6	25.1	24.7	31.4	96	"	6.3	"	4.0	0	0	15	0	1	7	6	0	0	0	1	15	0
	0530	"	1002.2	988.0	"	25.4	25.0	24.5	31.4	97	"	6.6	"	3.5	0	0	13	0	1	7	4	0	0	0	1	17	0
	0830	"	1003.7	989.6	-1.8	27.4	25.9	25.1	33.0	88	+5	6.3	+1.1	5.8	0	0	25	0	5	11	4	0	0	3	2	5	0
	1130	"	1002.9	988.9	"	29.4	26.5	25.2	32.2	79	"	6.5	"	5.4	0	0	21	0	4	8	5	0	0	1	3	9	0
	1730	"	1000.5	986.4	"	27.3	25.7	24.9	31.7	88	"	6.9	"	5.6	0	0	23	1	2	12	4	0	2	1	1	7	0
	2330	"	1003.1	998.9	"	26.0	25.2	24.9	31.3	94	"	6.1	"	4.9	0	0	18	0	2	5	7	0	2	2	0	12	0
Buri	0830	77	1004.6	995.9	"	27.7	26.0	25.2	32.2	85	"	6.3	"	8.9	0	0	29	1	6	12	3	2	4	1	0	1	0
	1730	"	1001.4	992.8	"	27.8	25.7	24.6	31.2	85	"	6.7	"	7.4	0	0	30	1	9	9	5	1	5	0	0	0	0
Berhampore	0830	19	1004.1	1002.0	-2.1	28.4	26.4	25.6	32.9	85	+3	6.5	+1.1	5.6	0	0	26	0	0	21	0	4	0	0	0	4	1
	1730	"	1000.7	998.6	"	28.5	26.3	25.2	34.0	83	"	6.6	"	4.3	0	0	16	1	0	12	0	3	0	0	0	14	0
Orissa																											
Bariпада	0830	54	1004.2	998.1	"	27.4	25.5	24.7	31.0	86	"	6.7	"	1.2	0	0	7	4	0	0	2	0	1	0	0	23	0
	1730	"	1000.9	994.8	"	27.3	25.6	24.8	31.3	87	"	7.3	"	2.0	0	1	13	2	0	1	6	1	4	0	0	16	0
Balasore	0830	20	1003.1	1000.9	-2.5	28.6	26.4	25.5	32.6	84	+1	6.4	+1.2	6.8	0	2	17	5	2	1	0	3	8	0	0	11	0
	1730	"	1000.2	998.0	"	27.9	26.0	25.2	32.0	86	"	6.5	"	7.6	1	0	15	1	1	0	3	3	8	0	0	14	0
Chandbali	0830	6	1003.5	1002.8	-1.9	28.1	26.2	25.8	32.4	86	+3	5.3	-0.1	7.6	0	1	26	2	1	1	2	7	9	4	1	3	0
	1730	"	999.9	999.2	"	28.5	26.5	25.6	33.0	85	"	6.1	"	5.8	0	1	23	1	0	1	4	7	3	4	4	6	0
Cuttack	0830	27	1003.3	1000.8	-2.7	27.5	25.9	25.1	32.1	86	+6	5.0	0	1.9	0	0	5	0	1	0	0	2	2	0	0	25	0
	1730	"	1000.1	997.1	"	28.3	26.0	25.1	31.8	82	"	6.3	"	1.3	0	0	2	1	0	0	0	1	0	0	0	28	0
Bhubaneswar	0230	46	1001.7	996.5	"	25.9	25.2	24.9	31.5	95	"	5.9	"	9.1	0	6	14	1	0	1	1	0	11	5	1	10	0
	0530	"	1002.0	996.8	"	25.6	25.0	24.8	31.3	95	"	6.1	"	10.6	0	7	16	2	1	1	0	0	12	6	1	7	0
	0830	"	1003.7	998.5	"	27.7	25.7	24.8	31.5	85	"	6.2	"	12.0	0	5	21	2	0	0	1	0	14	7	2	4	0
	1130	"	1002.9	997.7	"	30.0	26.4	24.8	31.5	74	"	6.4	"	16.0	0	7	21	5	0	0	1	2	15	2	3	2	0
	1730	"	1000.5	995.3	"	27.6	25.7	24.9	31.4	86	"	7.0	"	12.1	0	6	21	2	0	0	3	5	12	3	2	3	0

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—SEPTEMBER, 1959 (BHADRA 10—ASVINA 8, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (Km. p.h.)			No. of observations											
			At mean sea level or height in ft. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour	62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Orissa—Contd.																													
Bhubaneswar (Contd.)	2330	46	1002.7	997.5	..	26.4	25.5	25.1	32.6	93	..	6.0	..	9.7	0	4	19	2	0	0	1	2	10	7	1	7	0		
Puri	0830	6	1003.2	1002.5	-2.5	28.5	26.3	25.4	32.4	84	+4	6.3	+1.6	15.2	0	6	24	2	1	0	0	0	20	5	2	0	0		
	1730	..	1000.6	999.9	..	28.6	26.3	25.3	32.4	82	..	7.3	..	17.9	0	11	19	1	3	0	0	8	15	1	2	0	0		
Gopalpur	0530	17	1002.4	1000.5	..	26.2	25.2	24.2	30.8	92	..	6.1	..	6.6	0	2	16	2	0	0	0	2	10	0	4	12	0		
	0830	..	1003.9	1002.0	-1.9	28.1	26.0	25.1	32.0	84	+3	5.6	+1.4	10.4	0	5	20	5	0	0	0	5	11	0	4	5	0		
	1130	..	1003.3	1001.4	..	30.2	26.6	25.1	31.8	74	..	5.7	..	15.5	0	8	22	2	0	1	4	11	9	1	2	0	0		
	1730	..	1000.8	998.9	..	28.7	26.2	25.1	31.9	81	..	6.3	..	17.0	0	11	17	2	0	1	2	9	12	0	2	2	0		
	2330	..	1002.7	1000.8	..	27.0	25.6	25.0	31.7	89	..	5.6	..	9.2	0	5	18	1	0	0	1	4	12	3	2	7	0		
Koraput	0830	913	1462.8	905.9	..	22.1	20.9	20.4	24.0	91	..	5.0	..	10.9	0	6	23	1	1	1	2	3	5	14	2	1	0		
	1730	..	1442.8	903.4	..	23.1	21.0	20.0	23.4	83	..	5.3	..	10.5	0	5	24	1	0	1	2	1	8	8	8	1	0		
Tiragarh	0830	211	1004.0	980.5	..	27.2	25.0	23.9	29.9	82	..	4.3	..	3.0	0	0	27	1	5	0	3	7	11	0	0	3	0		
	1730	..	1000.3	977.0	..	28.7	25.5	24.2	33.2	77	..	4.8	..	3.2	0	0	26	2	6	0	3	7	7	0	1	4	0		
Bolangir	0830	190	1003.0	982.2	..	27.1	24.8	23.6	29.6	82	..	5.8	..	4.6	0	9	30	3	1	1	2	11	10	0	2	0	0		
	1730	..	1001.4	980.5	..	27.7	25.1	23.9	29.8	80	..	6.8	..	4.6	0	9	30	4	3	2	2	9	8	0	2	0	0		
Angul	0830	139	1003.8	988.3	-1.8	26.8	25.0	24.2	30.2	86	+4	6.6	+1.2	8.4	0	0	28	5	2	3	1	3	4	7	3	2	0		
	1730	..	1000.3	984.9	..	28.3	25.2	23.8	29.6	73	..	7.4	..	10.8	0	3	27	2	2	1	1	4	7	10	3	0	0		
Keonjhar	0830	463	1003.9	949.9	..	24.9	23.1	22.5	26.8	86	..	6.3	..	4.8	0	0	22	2	2	0	2	4	0	7	5	8	0		
	1730	..	1000.7	946.9	..	25.5	23.5	22.6	26.4	85	..	7.1	..	3.9	0	0	29	4	0	2	2	7	4	4	6	1	0		
Sambalpur	0830	148	1003.5	987.0	-2.3	27.7	25.3	24.3	30.2	82	0	5.9	+0.9	5.7	0	0	27	1	4	0	2	8	9	2	1	3	0		
	1730	..	1000.2	983.7	..	27.7	25.3	24.3	30.2	82	..	6.2	..	3.4	0	0	21	2	3	2	3	4	5	1	1	9	0		
Jharsuguda	0230	230	1001.4	975.7	..	25.0	24.6	24.3	30.5	97	..	6.1	..	4.3	0	0	19	1	1	4	3	2	4	3	1	11	0		
	0530	..	1001.9	976.1	..	24.5	24.3	24.0	29.9	98	..	6.6	..	4.8	0	0	22	2	4	3	5	1	2	4	1	8	0		
	0830	..	1003.4	977.7	..	26.6	24.9	24.4	30.2	88	..	6.3	..	5.8	0	0	26	2	2	4	3	3	1	11	0	4	0		
	1130	..	1002.4	977.0	..	29.1	25.8	24.2	30.4	76	..	6.9	..	6.3	0	0	25	1	3	2	2	2	4	7	4	5	0		
	1730	..	1000.0	974.4	..	27.0	25.2	24.4	30.6	86	..	7.0	..	5.0	0	0	23	1	2	5	4	2	5	4	0	7	0		
	2330	..	1002.4	976.8	..	25.5	24.8	24.5	30.8	94	..	6.3	..	5.5	0	1	19	1	4	2	2	2	4	4	1	10	0		
Bihar Plateau																													
Jamshedpur	0830	129	1003.4	989.0	-1.9	27.2	25.4	24.6	30.9	86	+5	5.7	0	6.2	0	1	22	0	2	10	1	0	3	5	2	7	0		
	1730	..	1000.0	985.6	..	27.7	25.6	24.7	31.0	84	..	7.1	..	5.2	0	1	20	0	4	11	2	0	0	3	1	9	0		
Jamshedpur (P.B.O.)	0530	145	1001.9	985.5	..	25.2	24.6	24.3	28.3	95	..	6.2	..	3.7	0	0	17	0	8	2	1	0	3	2	1	13	0		
	0830	..	1003.3	987.1	..	27.4	25.5	24.5	31.1	84	..	6.1	..	6.7	0	0	29	4	9	4	1	1	4	5	1	1	0		
	1130	..	1002.7	986.5	..	29.2	26.0	24.6	31.0	77	..	6.6	..	6.3	0	1	28	1	9	7	2	1	4	2	3	1	0		
	1730	..	1000.1	983.9	..	27.6	25.4	24.4	30.7	84	..	7.1	..	7.6	0	1	24	1	10	5	4	0	2	3	0	5	0		
	2330	..	1002.7	986.4	..	25.9	25.0	24.5	31.0	92	..	5.5	..	5.6	0	1	20	0	11	6	0	1	1	2	0	9	0		
Chaibasa	0830	226	1013.4	978.4	-1.7	27.2	25.0	24.0	29.9	83	+2	5.7	+0.6	1.6	0	0	14	0	4	1	0	0	9	0	0	16	0		
	1730	..	1000.2	975.1	..	27.3	25.0	23.9	29.8	83	..	6.7	..	2.2	0	0	14	0	7	1	2	0	4	0	0	16	0		
Ranchi	0830	655	1003.2	931.7	-1.9	25.3	23.1	22.2	26.6	83	+2	5.5	+0.4	1.0	0	0	8	0	2	3	1	2	0	1	0	22	0		
	1730	..	1000.8	929.4	..	24.7	23.1	22.4	27.0	87	..	6.2	..	0.8	0	0	6	0	2	2	0	2	0	0	0	24	0		
Ranchi (C.W.O.)	0530	652	1001.7	930.1	..	22.9	22.2	22.0	26.4	94	..	6.3	..	6.3	0	1	17	2	3	7	1	1	2	1	1	12	0		
	0830	..	1003.1	931.8	..	24.4	22.9	21.9	26.9	87	..	6.3	..	10.4	0	1	23	2	5	8	1	2	0	1	5	6	0		
	1130	..	1002.8	931.9	..	26.0	23.2	21.9	26.5	80	..	7.1	..	10.5	0	0	27	6	2	9	2	2	1	0	5	3	0		
	1730	..	999.9	928.9	..	24.6	22.9	22.1	26.7	86	..	7.1	..	6.7	0	0	24	3	5	11	0	1	2	1	1	6	0		
Daltonganj	0830	221	1003.5	978.9	-2.0	28.0	25.2	23.9	29.7	79	0	5.8	+2.3	1.6	0	0	13	1	1	7	0	1	0	3	0	17	0		
	1730	..	1000.3	973.4	..	27.8	25.2	24.0	29.8	81	..	6.8	..	1.3	0	0	10	0	4	5	0	1	0	0	0	20	0		
Hazaribagh	0830	611	1003.7	936.8	-1.5	25.0	23.5	22.8	27.9	83	+7	5.9	+0.3	7.0	0	0	25	1	3	7	3	2	5	0	4	5	0		
	1730	..	1000.6	933.7	..	25.0	23.5	22.9	27.9	89	..	7.0	..	6.3	0	1	21	1	1	8	5	3	0	0	4	8	0		
Dhanbad	*0830	257	1003.6	975.7	..	26.5	25.1	24.5	30.8	88	..	7.5	..	4.3	0	0	15	0	2	10	2	1	0	0	0	0	0		
	1730	..	1000.5	971.9	..	26.5	25.4	24.6	31.6	88	..	(b) 7.0	..	(b) 3.1	0	0	19	1	8	6	0	1	2	1	0	10	0		

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
Bihar Plains (Contd.) Chapra*	0830	28.9	26.1	24.8	31.6	79	..	3.9	..	8.1	0	2	17	0	4	5	0	1	5	2	2	0	0
	1730	30.7	16.4	24.7	31.0	73	..	4.1	..	6.5	0	0	18	1	5	4	1	1	3	0	3	1	0
Patna	0830	53	1004.2	998.1	-1.6	28.4	25.7	24.5	30.8	79	-0	5.3	+0.4	11.6	0	3	27	0	8	12	3	1	2	4	0	0	
	1730	..	1000.7	994.8	..	29.8	26.1	24.5	30.8	74	..	4.9	..	8.5	0	0	24	0	7	8	2	0	1	3	3	6	
Patna (Aerodrome)	0530	60	1002.3	995.5	..	26.3	25.5	25.2	31.7	93	..	4.9	..	4.9	0	0	13	0	0	10	2	0	0	1	0	17	
	0830	..	1003.6	996.9	..	28.5	26.2	25.2	32.3	85	..	5.2	..	10.8	0	0	28	0	1	16	4	1	2	2	2	2	
	1130	..	1003.2	996.6	..	30.3	26.7	25.1	32.0	74	..	6.1	..	14.3	0	0	29	1	0	10	10	0	2	3	2	1	
	1730	..	1000.0	993.3	..	30.2	26.6	25.0	31.8	75	..	5.1	..	8.2	0	0	22	0	1	13	3	0	1	1	3	8	
	2330	52	1003.5	997.6	..	28.1	26.1	25.4	32.2	86	..	8.4	..	4.7	0	0	16	0	0	12	1	1	0	1	1	14	
Dehri	0830	107	1003.4	991.4	..	28.0	25.7	24.6	31.2	82	..	5.1	..	3.9	0	0	30	3	3	9	4	1	4	4	2	0	
	1730	..	999.5	987.6	..	29.1	26.1	24.6	31.6	78	..	5.9	..	4.6	0	0	29	6	1	6	6	1	3	2	4	1	
Gaya	0230	116	1002.2	989.2	..	26.4	25.4	24.9	31.6	92	..	5.5	..	7.9	0	4	18	0	0	11	3	2	4	2	0	8	
	0530	..	1002.6	989.5	..	25.8	25.0	24.5	31.0	94	..	5.7	..	10.2	0	3	21	0	1	14	1	2	2	3	1	6	
	0830	..	1004.1	991.0	-1.2	28.2	25.9	24.9	31.7	83	+8	5.7	+2.0	12.8	0	8	16	0	0	11	5	0	2	5	1	6	
	1130	..	1003.7	990.7	..	30.2	26.5	24.8	31.6	74	..	6.3	..	15.4	0	7	20	0	3	13	4	0	0	4	3	3	
	1730	..	1000.5	987.6	..	29.1	26.0	24.7	32.6	78	..	6.3	..	14.7	0	4	26	0	3	12	3	1	3	4	4	0	
	2330	..	1003.4	990.3	..	26.9	25.7	25.1	33.6	90	..	5.4	..	9.6	0	3	22	0	4	9	5	0	3	3	1	5	
Jamui	0830	82	1003.8	994.4	..	28.1	26.2	25.1	32.1	86	..	5.3	..	6.0	0	0	26	0	1	17	2	1	0	1	4	4	
	1730	..	1000.1	990.7	..	29.3	26.7	25.6	33.0	81	..	5.7	..	5.8	0	0	24	0	3	15	1	0	0	3	2	6	
Bhagalpur	0530	49	1002.7	997.2	..	26.1	25.4	25.2	31.8	94	..	5.5	..	8.7	0	6	19	0	0	16	3	1	2	1	2	5	
	0830	..	1004.5	999.0	..	28.3	26.3	25.4	32.8	83	..	5.7	..	9.4	0	3	23	0	1	18	5	1	2	1	0	2	
	1130	..	1004.2	998.7	..	29.9	26.7	25.4	32.5	78	..	6.3	..	11.5	0	6	23	0	2	17	4	0	2	3	1	1	
	1730	..	1000.9	995.4	..	29.2	26.5	25.4	32.1	80	..	5.9	..	8.9	0	3	23	1	0	13	8	1	2	0	1	4	
	2330	..	1003.7	998.2	..	27.0	25.8	25.4	32.4	91	..	3.9	..	8.8	0	4	20	0	0	12	9	0		1	0	6	
Sabour	0830	37	1004.5	1000.3	-0.7	28.3	26.3	25.3	32.7	85	+2	6.0	+0.3	9.3	0	0	30	2	2	15	6	2	2	0	0	0	
	1730	..	1000.9	996.7	..	28.9	26.5	25.4	32.9	83	..	6.1	..	7.9	0	1	24	1	0	13	6	0	1	2	5	0	
Uttar Pradesh (East)																											
Gonda	0830	110	1004.5	992.8	..	28.6	25.8	24.7	31.0	80	-1	4.4	+0.2	2.8	0	0	20	0	0	15	0	0		3	2	10	
	1730	..	1000.5	988.5	..	30.0	26.3	24.6	30.7	72	..	2.9	..	1.3	0	0	12	0	0	8	0	0		2	2	18	
Nautanwa	0830	99	1004.7	993.5	..	28.3	25.8	24.5	31.3	80	..	4.9	..	4.9	0	0	25	1	2	10		0	1	0	1	5	
	1730	..	1001.0	990.9	..	30.1	26.4	24.9	31.5	75	..	3.3	..	4.1	0	0	25	1	2	9	9	0	2	1	1	5	
Gorakhpur	0830	77	1004.7	996.0	-0.8	30.4	26.2	24.2	30.6	70	-11	6.6	+3.2	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	1000.3	991.9	..	31.0	26.5	24.8	31.0	67	..	5.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorakhpur (P.B.O.)	0230	78	1007.4	993.6	..	27.6	25.9	25.2	32.1	86	..	3.4	..	6.0	0	0	25	2	9	6	2	2	2	2	0	5	
	0530	..	1002.6	993.8	..	26.9	25.4	24.8	31.6	88	..	4.3	..	5.5	0	0	25	4	14	2	0	0	3	2	0	5	
	1130	..	1003.9	995.2	..	31.2	26.8	24.9	31.8	69	..	6.1	..	8.9	0	0	29	2	6	6	9	0	2	2	2	1	
	2330	..	1003.3	994.7	..	28.1	25.9	25.1	32.0	84	..	3.1	..	5.3	0	0	25	1	11	4	1	0	2	1	5	5	
Azamgash	0830	78	1003.5	994.8	..	29.3	26.9	26.0	33.5	83	..	4.0	..	..	0	0	30	0	0	26	0	0	0	4	0	0
	1730	..	1000.0	991.4	..	30.8	27.7	26.5	33.4	77	..	3.4	..	..	0	0	18	0	0	14	0	0	1	3	0	12
Ballia	0830	64	1004.0	996.7	..	26.7	25.4	25.0	31.9	89	..	4.0	..	6.1	0	0	23	0	12	1	4	0	2	1	2	7	
	1730	..	1001.5	994.4	..	30.7	27.2	25.8	32.6	76	..	4.3	..	8.0	0	0	27	0	10	5	7	0	1	2	2	3	
Varanasi (Banaras)	0830	76	1003.6	995.1	-1.6	28.3	26.1	25.0	32.0	83	+3	4.6	+0.4	10.1	0	0	22	0	12	1	0	0	6	2	0	8	
	1730	..	1000.3	991.4	..	30.6	27.5	26.2	34.2	77	..	5.4	..	3.7	0	0	14	0	6	2	1	0	4	1	0	16	
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1003.4	993.8	..	25.9	25.3	25.1	31.5	96	..	4.9	..	9.3	0	0	21	0	7	7	0	0	4	3	0	9	
	0830	..	1004.9	995.3	..	28.3	26.4	25.4	32.8	85	..	5.1	..	13.0	0	5	22	1	8	6	0	1	3	5	1	3	
	1130	..	1004.4	994.9	..	30.9	27.6	26.4	34.6	77	..	6.0	..	14.4	0	2	27	1	7	7	2	0	4	6	2	1	
	1730	..	1001.1	991.6	..	30.5	27.3	26.0	34.2	78	..	4.8	..	10.9	0	2	24	0	5	11	0	1	2	3	2	4	
	2330	..	1004.1	994.5	..	27.0	26.1	25.6	33.7	92	..	3.2	..	10.7	0	0	27	2	7	7	0	1	5	5	0	3	
Allahabad (Bamrauli)	0230	98	1001.9	990.9	..	26.7	25.1	24.4	30.3	87	..	3.5	..	5.0	0	0	23	1	9	5	0	0	3	5	0	7	
	0530	..	1002.3	991.2	..	26.4	24.8	24.2	29.8	90	..	4.6	..	5.5	0	0	24	1	7	6	1	0	1	6	2	6	
	0830	..	1003.8	992.8	1.5	28.3	25.4	24.0	29.0	78	-1	5.3	+0.8	10.1	0	0	30	2	5	10	1	2	2	6	2	0	
	1130	..	1003.5	992.6	..	31.3	26.4	24.3	29.8	67	..	6.1	..	10.8	0	0	29	0	9	9	0	1	2	3	5	1	
	1730																										

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mm.	Relative humidity %.	Departure from normal	Cloud amount (Oktas).			Wind speed (Km. p.h.)	No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour.		162 or more	20 to 61	1 to 19	Wind direction								
																			N	NE	E	SE	S	SW	W	NW	Calm	Variable
			19	20	21	22	23	24				25	26	27		28											
Uttar Pradesh (East) —(Contd.)																											
Banda	0830	121	1004.1	990.7	..	28.7	26.0	24.7	31.6	80	..	4.0	..	3.5	0	0	21	0	7	5	0	0	3	6	0	9	0
	1730	..	1000.2	987.0	..	31.1	26.9	25.6	32.1	71	..	3.2	..	3.1	0	0	29	1	9	2	4	0	6	4	3	1	0
Fatehpur	0830	114	1004.1	991.3	..	28.2	25.3	23.9	30.2	78	..	3.8	+0.1	8.0	0	0	29	0	7	8	1	2	2	7	2	1	0
	1730	"	1000.2	987.6	..	31.4	26.0	23.7	29.6	64	..	3.2	..	6.8	0	0	28	0	9	7	0	0	2	5	5	2	0
Kanpur	0830	126	1004.2	990.1	-0.9	28.1	25.3	23.9	29.4	79	-3	4.4	+1.8	9.1	0	0	30	2	6	9	2	0	2	7	2	0	0
	1730	"	1000.3	986.8	..	31.6	26.1	23.6	29.3	64	..	4.3	..	6.5	0	0	30	2	5	9	2	1	2	7	2	0	0
Kanpur (Aerodrome)	0530	126	1002.8	988.4	..	25.8	24.5	23.8	29.0	90	..	2.8	..	..	0	1	22	2	5	9	0	0	1	6	0	7	0
	0830	"	1004.1	989.8	..	28.3	25.2	23.9	29.7	77	..	4.7	..	..	0	8	22	3	3	12	2	1	1	7	1	0	0
	1130	"	1003.8	989.7	..	31.6	26.0	23.4	29.3	62	..	5.2	..	..	0	13	15	2	1	14	2	1	1	4	3	2	0
	1730	"	1000.4	986.2	..	31.4	25.6	23.0	28.0	62	..	4.3	..	..	0	8	20	4	2	11	3	1	1	5	1	2	0
	2330	"	1003.2	988.9	..	27.4	25.1	24.2	29.9	82	..	1.7	..	..	0	0	23	2	4	6	1	2	0	8	0	7	0
Lucknow	0830	111	1005.1	992.6	0	28.1	25.4	24.4	30.5	81	+2	4.2	+0.6	4.4	0	0	26	0	0	16	0	1	0	9	0	4	0
	1730	"	1001.1	988.8	..	31.2	25.4	24.0	27.4	64	..	3.0	..	4.3	0	0	26	0	0	15	0	3	0	8	0	4	0
Lucknow (Amausi Aerodrome)	0230	128	1002.0	987.7	..	25.9	24.7	24.2	30.3	91	..	2.6	..	5.2	0	0	21	2	11	4	0	0	2	2	0	9	0
	0530	"	1002.4	988.0	..	25.4	24.5	24.2	30.5	93	..	4.2	..	5.4	0	0	19	0	7	4	1	1	3	2	1	11	0
	0830	"	1003.9	989.6	-1.2	28.2	25.5	24.4	30.5	80	+5	4.8	+1.2	7.5	0	1	23	0	4	10	1	0	2	5	2	6	0
	1130	"	1003.6	989.4	..	31.3	26.1	23.9	29.8	66	..	5.1	..	12.8	0	2	24	0	1	11	4	0	3	2	5	4	0
	1730	"	1000.1	986.3	..	30.4	26.0	24.4	30.2	68	..	4.0	..	8.8	0	1	23	2	4	8	3	1	1	4	1	6	0
	2330	"	1002.9	988.3	..	26.7	25.2	24.5	30.3	88	..	2.6	..	4.8	0	0	18	0	4	7	0	1	5	0	1	12	0
Hardoi	0830	142	1004.0	988.1	..	28.1	25.5	24.3	31.3	80	..	3.2	..	6.1	0	0	28	3	1	15	1	2	0	6	0	2	0
	1730	"	1000.0	984.3	..	31.6	26.4	24.2	30.9	65	..	3.0	..	4.8	0	0	28	7	0	9	4	0	2	5	1	2	0
Lakhimpur Kheri	0830	147	1004.4	987.9	..	27.5	25.9	25.2	31.7	87	..	4.0	..	2.0	0	0	17	0	0	12	2	0	1	1	1	13	0
	1730	"	999.9	983.6	..	30.7	28.7	28.1	37.8	87	..	3.5	..	1.3	0	0	12	0	0	7	2	1	0	2	0	18	0
Bahraich	0830	124	1003.9	990.0	-1.2	28.5	25.6	24.5	30.0	79	+1	5.0	+2.2	8.5	0	1	29	1	0	18	4	1	0	6	0	0	0
	1730	"	1000.7	987.2	..	30.8	26.4	24.4	30.6	70	..	5.1	..	6.4	0	0	30	5	0	12	1	1	0	10	1	0	0
Uttar Pradesh (West)																											
Orai	0830	141	1005.0	989.2	..	29.2	26.2	24.6	31.2	75	..	4.1	..	4.7	0	0	29	1	3	6	4	0	0	1	14	1	0
	1730	"	1001.4	985.8	..	31.2	26.4	24.4	30.5	69	..	4.2	..	4.4	0	0	30	2	2	1	3	1	3	3	15	0	0
Jhansi	0830	251	1003.5	975.5	-2.2	27.3	24.8	23.6	29.1	80	+6	3.5	+0.6	2.7	0	0	26	2	2	7	6	1	1	3	4	4	0
	1730	"	1000.3	972.6	..	29.6	25.5	23.4	28.8	68	..	4.2	..	2.1	0	0	21	7	3	5	1	1	0	2	2	9	0
Agra	0830	169	1004.2	985.4	-0.9	28.4	25.3	23.9	29.7	75	0	3.1	0	1.3	0	0	13	0	0	7	0	1	1	3	1	17	0
	1730	"	1000.0	981.4	..	31.1	25.7	23.2	29.0	65	..	2.9	..	1.2	0	0	8	0	2	0	0	1	3	1	1	22	0
Agra (Aerodrome)	0530	169	1002.7	983.6	..	25.3	24.1	23.5	28.7	90	..	4.0	..	..	0	0	16	0	4	6	0	2	3	1	0	14	0
	0830	"	1004.1	985.1	..	28.3	25.2	23.8	29.7	76	..	3.9	..	..	0	2	25	2	3	8	3	3	5	3	0	3	0
	1130	"	1004.1	985.3	..	30.8	25.6	23.4	27.9	66	..	5.7	..	..	0	5	25	1	2	12	2	2	2	6	3	0	0
	1730	"	1000.1	981.6	..	30.9	25.5	23.0	27.9	64	..	4.6	..	..	0	1	28	4	3	7	3	1	3	5	3	1	0
	2330	"	1003.2	984.1	..	26.7	24.5	23.6	28.8	83	..	2.3	..	..	0	0	16	0	3	5	2	0	3	3	0	2	0
Mainpuri	0830	157	1003.4	985.9	-1.6	28.8	25.6	24.3	30.0	77	+1	3.1	-0.3	2.2	0	0	21	0	0	15	0	0	0	6	0	9	0
	1730	"	999.5	982.4	..	32.5	26.7	24.0	30.2	64	..	2.5	..	2.0	0	0	19	0	0	11	1	0	0	7	0	11	0
Aligarh	0830	187	1004.3	983.2	..	27.9	25.1	23.9	29.4	78	+7	4.1	+1.5	2.6	0	0	22	0	0	12	1	1	0	8	0	8	0
	1730	"	1000.4	979.7	..	31.6	25.9	23.2	29.3	62	..	5.2	..	2.3	0	0	23	4	0	10	1	1	0	7	0	7	0
Bareilly	0830	173	1004.1	984.8	-1.1	28.4	25.5	24.1	29.7	79	-1	4.1	+0.8	4.0	0	0	18	0	0	9	3	0	0	4	2	12	0
	1730	"	999.5	980.4	..	30.2	25.9	23.8	29.9	69	..	4.8	..	1.8	0	0	14	1	0	7	1	0	0	3	2	16	0
Bareilly (P.B.O.)	0230	172	1002.3	983.0	..	26.7	24.8	24.1	29.3	83	..	3.4	..	4.4	0	0	21	0	1	11	3	0	3	2	1	9	0
	0530	"	1002.6	983.3	..	26.3	24.7	24.1	29.3	88	..	5.5	..	5.3	0	0	20	1	4	9	2	0	0	4	0	10	0
	1130	"	1003.9	984.8	..	30.5	27.0	24.3	31.8	71	..	5.2	..	7.4	0	0	28	0	2	3	8	5	0	4	4	2	0
	2330	"	1003.0	983.7	..	27.7	25.2	24.3	30.2	82	..	3.7	..	4.3	0	0	20	0	0	10	2	1	1	5	1	10	0
Meerut	0830	222	1004.4	979.7	-0.7	28.2	25.4	24.1	30.7	79	+3	3.9	+1.5	2.6	0	0	3	0	0	12	0	0	0	1	0	17	0
Najibabad	0830	270	1004.1	974.1	..	26.8	25.0	24.0	30.3	85	..	3.6	..	4.2	0	0	25	0	3	5	9	0	1	0	7	5	0
	1730	"	1001.8	971.9	..	30.1	26.2	24.4	30.7	78	..	3.3	..	3.5	0	0	24	0	4	1	4	0	3	0	12	6	0
Roorkee	0830	274	1004.4	973.8	-0.9	26.7	24.9	24.1	28.8	86	+7	4.8	+1.9	0.5	0	0	6	0									

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of the nearest standard isobaric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.		Departure from normal	Mean amount	Departure from normal.	Mean wind speed, Km. per hour.	62 or more	26 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
Punjab (India) (Including Delhi) New Delhi	0230	216	1002.2	978.1	..	26.8	24.5	23.4	28.8	82	..	3.0	..	5.5	0	1	15	0	0	5	3	2	0	6	0	14	0
	0530	"	1002.6	978.3	..	26.1	24.3	23.5	28.6	85	..	3.7	..	4.0	0	0	15	0	0	5	3	0	0	5	2	15	0
	0830	"	1004.3	980.1	-0.9	28.5	25.0	23.5	28.2	74	0	3.6	+0.3	7.7	0	4	23	0	2	3	9	4	1	5	3	3	0
	1130	"	1004.0	980.1	..	31.7	25.0	23.3	28.8	62	..	5.2	..	9.5	0	2	24	1	1	5	8	2	0	2	7	4	0
	1730	"	1000.1	976.4	..	31.7	25.7	23.0	27.7	61	..	4.5	..	6.7	0	0	23	0	2	6	3	1	4	3	4	7	0
Nw Delhi (Palam Aerodrome)	2330	"	1003.0	978.9	..	27.7	25.0	24.0	29.4	79	..	3.3	..	4.5	0	0	19	0	1	7	2	2	2	5	0	11	0
	0230	233	1002.2	976.7	..	26.7	25.3	24.6	31.1	88	..	3.3	..	..	0	0	24	0	0	14	4	0	4	2	0	6	0
	0530	"	1002.4	976.3	..	26.0	24.9	24.3	30.8	91	..	3.6	..	..	0	0	24	0	2	11	3	2	3	3	0	6	0
	0830	"	1003.9	978.1	..	28.1	25.7	24.7	30.8	82	..	3.7	..	..	0	3	24	0	1	9	4	4	3	5	1	3	0
	1130	"	1003.9	978.3	..	31.5	27.1	25.7	32.2	70	..	5.3	..	..	0	5	24	0	3	9	5	1	2	5	4	1	0
	1430	"	1001.2	975.7	..	32.5	27.2	25.2	31.6	65	..	6.0	..	..	0	6	24	2	1	7	5	3	4	4	4	0	0
	1730	"	1000.1	974.5	..	31.6	27.1	25.2	32.2	69	..	5.0	..	..	0	1	28	2	4	7	7	1	1	5	3	1	0
	2030	"	1001.8	976.0	..	28.9	26.4	25.3	32.4	81	..	3.5	..	..	0	1	25	0	1	9	4	2	4	3	3	4	0
	2330	"	1002.8	976.8	..	27.5	25.8	25.0	32.0	86	..	3.0	..	..	0	1	23	0	2	8	5	2	5	2	0	6	0
Hissar	0530	221	1002.5	977.7	..	25.6	24.8	23.7	29.0	89	..	3.5	..	6.4	0	0	28	0	1	8	5	4	8	2	0	2	0
	0830	"	1003.8	979.2	-1.1	27.9	25.3	24.2	30.2	81	+1.6	3.2	+1.6	5.8	0	0	27	0	2	3	6	5	4	7	0	3	0
	1130	"	1003.9	979.6	..	32.5	26.7	24.1	30.8	62	..	3.5	..	6.1	0	0	28	0	0	6	7	2	3	5	5	2	0
	1730	"	1000.3	976.0	..	31.8	26.2	23.7	29.3	64	..	4.4	..	6.2	0	1	23	2	2	7	2	2	4	4	1	6	0
	2330	"	1002.7	978.1	..	27.4	25.9	24.1	29.9	82	..	2.3	..	6.5	0	0	28	2	1	6	9	3	7	0	0	2	0
Karnal	0830	249	1003.6	975.8	..	26.4	24.8	23.9	29.8	87	..	3.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	1000.6	973.2	..	30.3	26.4	24.7	31.2	73	..	2.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Patiala	0830	251	1004.2	976.2	..	27.3	25.1	24.1	29.9	85	..	4.9	..	4.4	0	0	21	0	0	0	19	0	0	0	2	9	0
	1730	"	1001.0	973.4	..	29.9	26.1	24.2	30.7	73	..	4.6	..	2.4	0	0	11	1	0	0	6	1	0	0	3	19	0
Ambala	0830	272	1003.9	973.8	-0.9	26.3	25.3	24.5	30.8	92	+18	2.6	+0.1	2.5	0	0	17	0	0	0	8	0	3	0	6	13	0
	1730	"	1000.3	970.5	..	29.6	26.6	25.9	31.9	78	..	2.2	..	1.8	0	0	14	0	0	0	11	0	1	0	2	16	0
Ambala (P.B.O.)	0230	278	1002.3	971.0	..	26.3	24.9	24.4	30.4	89	..	4.0	..	4.1	0	0	20	0	1	3	9	3	2	2	0	10	0
	0530	"	1002.3	971.2	..	25.7	24.4	24.0	29.3	91	..	4.8	..	4.4	0	0	20	2	1	7	8	1	0	1	0	10	0
	1130	"	1003.8	973.1	..	29.4	25.6	24.2	29.9	74	..	5.4	..	6.3	0	0	28	0	1	2	15	1	2	4	3	2	0
	2330	"	1002.3	971.4	..	27.0	25.4	24.9	30.5	88	..	2.4	..	3.0	0	0	18	0	3	2	7	2	2	1	1	12	0
Ambala (Aerodrome)	0530	273	1001.8	971.4	..	24.7	24.4	24.2	29.9	97	..	4.8	..	..	0	1	15	0	1	7	6	0	0	0	2	14	0
	0830	"	1003.9	973.2	..	26.3	25.0	24.3	30.0	89	..	5.4	..	..	0	1	22	0	1	11	8	0	1	1	1	7	0
	1130	"	1003.9	973.6	..	29.2	26.1	24.6	30.8	77	..	5.9	..	..	0	3	26	0	1	6	11	1	1	7	2	1	0
	1730	"	1000.2	970.0	..	29.6	26.2	24.7	31.1	77	..	4.9	..	..	0	2	22	1	0	2	6	1	0	8	6	6	0
	2330	"	1002.2	971.9	..	25.9	25.2	25.0	32.3	95	..	2.9	..	..	0	0	13	0	3	3	2	0	0	2	3	17	0
Chandigarh	0830	347	1003.4	965.0	..	27.5	25.1	24.0	29.1	81	..	4.2	..	..	0	0	13	0	1	2	10	0	0	0	0	17	0
	1730	"	1000.4	962.3	..	29.0	25.6	24.0	30.0	75	..	2.1	..	..	0	0	12	2	0	1	6	2	0	0	1	18	0
Ludhiana	0830	247	1004.0	976.4	-1.1	27.5	25.4	24.4	31.1	81	+9	3.5	+1.7	3.1	0	0	30	0	3	2	15	0	3	0	7	0	0
	1730	"	1000.6	973.4	..	30.1	26.1	24.3	30.8	79	..	4.0	..	2.5	0	0	24	1	7	4	8	0	3	0	1	6	0
Halwara (Aerodrome)	0830	240	1004.2	977.6	..	27.7	25.3	24.4	30.2	81	..	4.0	..	..	0	0	29	0	0	8	12	3	1	3	2	1	0
	1730	"	1001.5	975.3	..	30.9	26.1	24.2	30.1	70	..	4.2	..	..	0	3	22	1	2	3	6	4	0	0	6	8	0
Bhantinda	0830	..	..	..	..	28.2	26.0	24.9	32.0	85	..	0.9	..	8.2	0	0	30	0	0	3	13	5	5	0	4	0	0
Ferozepur	1730	..	..	..	..	30.6	26.5	24.1	31.0	67	..	3.8	..	7.9	0	1	28	3	1	4	6	2	4	2	7	1	0
	0830	200	1002.5	980.3	..	28.4	26.3	24.9	32.0	82	..	2.4	..	1.3	0	0	13	1	4	0	3	0	4	0	1	17	0
	1730	"	999.9	977.6	..	30.9	26.8	24.9	31.6	72	..	3.3	..	1.2	0	0	12	2	4	0	1	0	1	0	4	18	0
Anarisar	0530	234	1002.2	976.0	..	25.6	25.0	24.8	31.3	95	..	3.8	..	4.7	0	0	19	0	3	7	4	2	2	1	0	11	0
	0830	"	1003.7	977.6	..	27.4	25.5	24.7	30.6	85	..	3.8	..	7.7	0	0	27	0	4	7	9	3	2	2	0	3	0
	1130	"	1003.9	978.1	..	30.9	26.3	24.2	30.3	68	..	4.4	..	6.7	0	0	23	0	2	4	6	4	3	2	1	7	1
	1730	"	1000.2	974.5	..	31.2	26.2	24.0	29.8	67	..	3.6	..	5.3	0	0	20	2	1	3	3	2	4	1	3	10	1
Pathankot	0830	344	1004.3	966.0	..	25.4	24.1	23.5	29.0	90	..	5.8	..	1.6	0	0	9	1	2	4	2	0	0	0	0	21	0
	1730	"	1001.9	964.3	..	28.8	26.3	24.5	32.3	74	..	5.3	..	1.6	0	0	16	2	2	1	2	0	2	7	0	14	0
Pathankot (Aero- drome)	0830	312	1004.3	969.6	..	25.9	24.1	23.9	28.2	86	..	5.8	..	3.3	0	0											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—SEPTEMBER, 1959 (BHADRA 10, —ASVINA 8, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, Km. per hour	Wind speed (Km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isoboric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Himachal Pradesh Bilaspur . . .	0830	493	1004.3	949.9	..	24.3	23.4	23.0	28.5	92	..	6.1	..	1.3	0	0	11	5	1	0	0	2	0	1	2	19	0
	1730	"	1000.5	946.9	..	28.5	24.3	22.1	26.7	72	..	4.8	..	5.4	0	1	26	6	2	2	1	5	5	2	4	3	0
Mandi	0830	761	1004.6	921.1	..	23.1	21.9	21.2	25.4	88	..	5.3	..	0.5	0	0	5	1	1	1	0	1	0	1	0	25	0
	1730	"	999.9	917.7	..	26.1	23.7	22.6	27.1	81	..	6.3	..	1.0	0	0	9	0	1	1	0	1	2	2	2	21	0
Jammu and Kashmir Srinagar	0530	1587	1451.1	836.8	..	18.1	17.2	16.7	19.0	91	..	4.3	..	0.8	0	0	8	0	0	1	4	0	0	2	1	22	0
	0830	"	1460.8	837.9	-2.0	20.0	18.0	16.9	19.3	83	-2	3.9	+1.6	1.7	0	0	12	0	0	0	8	0	2	1	1	18	0
	1130	"	1454.9	837.5	..	26.0	20.1	17.0	19.5	57	..	2.7	..	1.0	0	0	10	0	0	0	4	1	0	2	3	20	0
	1730	"	1422.3	834.2	..	27.1	19.4	15.7	16.9	50	..	3.1	..	2.5	0	0	17	2	2	0	1	0	0	7	5	13	0
	2330	"	1446.3	836.5	..	20.6	18.2	17.0	18.9	80	..	3.2	..	2.7	0	0	16	1	0	1	7	0	0	5	2	14	0
Srinagar (Aero- drome)	0530	1665	1445.4	828.9	..	17.6	15.9	15.0	17.0	84	..	4.0	..	..	0	0	11	0	0	0	1	2	3	1	4	19	0
	0830	"	1452.4	830.2	..	20.7	17.6	16.0	18.0	75	..	4.7	..	..	0	0	22	3	2	0	8	3	2	0	4	8	0
	1130	"	1452.7	830.2	..	24.9	19.2	16.3	18.4	59	..	3.9	..	..	0	0	27	7	3	2	4	0	2	3	6	3	0
	1730	"	1412.2	826.9	..	26.8	18.5	13.8	15.7	45	..	3.7	..	..	0	0	28	8	2	0	3	1	0	4	10	2	0
Gulmarg	0830	2655	3113.3	739.0	-0.9	14.7	13.0	11.8	13.5	83	+3	3.2	+1.0	0.6	0	0	6	0	4	1	1	0	0	0	0	24	0
	1730	"	3096.2	737.4	..	17.3	15.0	13.5	15.4	80	..	3.7	..	2.4	0	0	19	1	7	1	1	0	8	0	1	11	0
Leh	0530	3514	3095.1	665.7	..	9.4	4.8	-0.7	5.9	52	..	(b) 2.9	..	(b) 4.5	0	0	22	8	10	1	2	0	1	0	0	7	0
	0830	"	3094.2	666.3	-0.9	13.9	7.8	0.6	7.1	42	-8	2.1	-0.8	1.1	0	0	7	0	1	0	0	3	3	0	0	23	0
	1730	"	3043.3	663.2	..	20.7	11.4	3.6	8.1	35	..	2.8	..	5.2	0	0	24	1	0	0	0	5	9	9	0	6	0
Skardu (R)	0830	2288																									
Gilgit (R)	1730	"																									
Misgar (R)	0830	1491																									
Misgar (R)	1730	"																									
Jammu*	0830	"																									
Jammu (Aero- drome)	0530	292	1002.3	969.8	..	25.3	24.1	23.4	29.2	90	..	4.7	..	..	0	0	16	1	10	3	1	0	1	0	0	14	0
	0830	"	1003.9	971.2	..	26.9	24.8	23.9	28.8	84	..	5.3	..	..	0	0	21	1	7	6	6	1	0	0	0	9	0
	1130	"	1003.9	971.6	..	29.5	25.8	24.1	29.6	74	..	5.4	..	..	0	2	27	0	5	0	10	5	3	5	1	1	0
	1730	"	1000.0	971.3	..	30.2	25.9	23.9	29.1	71	..	4.4	..	..	0	0	26	0	2	2	2	4	4	8	4	4	0
Rajasthan (West) Sri Ganganagar	0530	177	1001.6	981.8	..	26.6	24.9	24.2	30.3	87	..	2.8	..	3.5	0	0	20	0	1	7	3	1	7	1	0	10	0
	0830	"	1002.9	983.1	..	27.7	25.5	24.9	31.3	84	+24	2.1	+1.4	3.6	0	0	24	0	1	10	2	2	8	1	0	6	0
	1130	"	1003.0	983.6	..	32.2	26.7	24.4	30.4	64	..	3.2	..	5.0	0	0	23	0	0	4	4	3	9	2	1	7	0
	1730	"	999.8	980.3	..	32.3	26.5	24.3	30.6	64	..	4.0	..	2.8	0	0	20	0	2	5	2	1	6	3	1	10	0
	2330	"	1001.9	982.2	..	28.1	25.6	24.5	30.7	81	..	2.2	..	2.8	0	0	19	0	0	6	6	1	5	1	0	11	0
Churu	0830	291	1004.0	971.5	..	27.5	25.3	24.3	31.1	84	..	3.8	..	10.8	0	4	24	0	0	6	2	1	4	14	1	2	0
	1730	"	1000.3	968.5	..	31.6	26.5	24.2	30.1	67	..	4.8	..	11.8	0	2	25	7	1	4	1	3	3	7	1	3	0
Bikaner	0830	224	1003.8	978.7	-1.5	27.5	24.8	23.5	28.9	78	+10	1.4	-0.1	6.5	0	0	30	1	3	3	3	0	8	9	3	0	0
	1730	"	1000.0	975.5	..	32.2	25.5	22.2	27.3	58	..	2.0	..	5.7	0	0	27	0	2	3	6	1	12	1	2	3	0
Bikaner (P.B.O.)	0530	224	1002.5	977.4	..	25.9	24.0	23.1	27.6	82	..	3.2	..	4.7	0	0	20	1	2	0	2	2	8	4	1	10	0
	1130	"	1003.7	979.1	..	31.7	25.8	23.1	28.5	61	..	3.8	..	6.3	0	0	28	1	5	1	4	5	8	3	1	2	0
	2330	"	1302.6	977.6	..	27.6	24.3	22.7	26.9	76	..	2.2	..	4.7	0	0	17	1	1	1	0	2	12	0	0	13	0
Jaisalmer	0830	242	1002.8	976.0	..	27.6	24.8	23.7	29.4	81	..	3.8	..	17.5	0	9	20	2	3	0	2	11	10	1	0	1	0
	1730	"	999.7	973.5	..	32.3	25.5	22.6	26.5	59	..	3.7	..	19.9	0	9	21	2	2	0	3	13	10	0	0	0	0
Phalodi	0830	234	1004.2	977.9	..	26.7	24.9	24.2	30.3	86	..	3.5	..	12.9	0	5	25	3	2	1	1	6	11	4	2	0	0
	1730	"	1001.3	975.6	..	31.5	26.5	24.2	30.9	67	..	4.0	..	19.0	0	13	17	1	3	2	3	8	12	0	1	0	0
Nagaur	0830	298	1004.1	970.9	..	27.3	24.5	24.1	28.4	78	..	4.0	..	7.3	0	0	29	2	4	1	1	6	9	5	1	1	0
	0730	"	1000.3	967.6	..	30.8	25.0	22.1	26.9	62	..	4.9	..	8.5	0	0	30	2	2	2	5	8	6	4	1	0	0
Jodhpur	0230	224	1002.5	977.4	..	25.5	23.9	23.1	28.3	87	..	2.6	..	5.8	0	0	25	0	1	0	0	3	11	8	2	5	0
	0530	"	1002.9	977.7	..	24.8	23.8	23.2	28.7	91	..	3.3	..	4.6	0	0	22	1	2	0	1	4	8	6	0	8	0
	0830	"	1004.5	979.3	-0.4	26.2	24.3	23.5	28.6	85	+12	4.9	+1.7	7.2	0	0	23	1	3	0	1	2	10	4	2	7	0
	1130	"	1004.5	979.7	..	29.9	25.2	23.1	28.3	67	..	5.4	..	10.5	0	3	26	4	2	2	2	4	11	4	0	1	0
	1730	"	1000.8	976.1	..	30.7	25.2	22.5	27.1	63	..	5.2	..	10.0	0	2	27	2	1	2	0	6	12	4	2	1	0
	2330	"	1003.5	978.4	..	26.5	24.2	23.0	28.8	82	..	2.7	..	5.7	0	0	25	0	1	1	1	1	12	8	1	5	0
Barmer	0530	194	1002.1	98																							

Division and station	Hour of observation I.S.T.	Height of barometer corrected above mean sea level in metres.	Mean pressure in millibars.			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed per hour, Km.	Wind speed (Km.p.h.)			No. of observations										
			At mean sea level or height in ft.-m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																												Wind direction
Rajasthan (West) —Contd. Barmer—Contd.	1130	194	1003.5	981.9	..	29.7	25.2	23.1	28.6	69	..	5.6	..	..	0	0	29	2	0	1	4	10	11	0	1	1	0	0
	1730	"	1000.2	978.8	..	30.8	25.3	22.8	27.1	64	..	4.8	..	..	0	0	30	0	2	0	5	12	10	0	1	0	0	0
	2330	"	1002.6	980.9	..	26.7	24.4	23.4	28.8	52	..	3.0	..	..	0	0	29	1	0	0	1	16	6	2	3	1	0	0
Rajasthan (East) Pilani	0830	..	..	..	..	27.7	24.4	22.9	27.7	75	..	1.6	..	12.8	0	4	26	1	1	5	5	3	5	10	0	0	0	0
	1730	..	..	..	..	30.7	25.3	22.3	27.9	64	..	2.6	..	9.9	0	1	29	2	2	5	3	3	4	8	3	0	0	0
Alwar	0830	271	1003.0	972.8	..	26.9	24.5	22.8	29.5	81	..	4.0	..	1.7	0	0	11	2	1	1	1	2	1	2	19	0	0	0
	1730	"	1000.4	970.6	..	30.5	25.4	23.6	29.1	67	..	4.6	..	1.0	0	0	11	0	1	1	2	3	0	3	0	19	1	0
Sikar	0830	433	1003.6	956.1	..	27.3	25.1	24.1	29.9	85	..	5.4	..	2.0	0	0	18	0	1	5	1	2	0	9	0	12	0	0
	1730	"	999.9	953.1	..	30.2	27.1	25.8	33.1	79	..	4.9	..	2.1	0	0	20	0	2	1	4	0	0	13	0	10	0	0
Jaipur (Sanganer Aerodrome).	0230	390	1002.4	958.9	..	24.9	23.4	23.2	27.5	90	..	2.7	..	..	0	0	15	0	2	4	0	0	1	3	5	15	0	0
	0530	"	1002.6	958.0	..	24.3	23.3	22.8	27.7	92	..	8.7	..	..	0	0	22	2	4	5	1	1	0	4	5	8	0	0
	0830	"	1003.8	960.6	-2.4	26.8	24.4	23.3	28.8	81	+9	4.4	+1.6	..	0	1	24	2	3	7	1	0	1	6	5	5	0	0
	1130	"	1003.6	960.7	..	29.5	24.9	22.8	28.4	69	..	5.6	..	..	0	2	27	2	1	6	3	1	2	6	7	1	1	0
	1730	"	1000.3	957.5	..	29.6	24.9	22.8	27.3	69	..	5.3	..	..	0	1	24	2	3	4	3	1	2	8	2	5	0	0
	2330	"	1003.1	959.7	..	25.8	24.2	23.4	28.4	87	..	2.9	..	..	0	0	13	1	1	5	0	0	0	4	2	17	0	0
Diolpur	0830	176	1003.6	984.0	..	27.8	25.2	24.1	30.6	80	..	3.8	..	3.8	0	0	19	0	2	6	4	0	1	5	1	11	0	0
	1730	"	999.8	980.4	..	30.7	25.7	23.4	29.5	66	..	4.5	..	3.1	0	0	19	1	3	4	3	0	1	6	1	11	0	0
Tonk	0830	272	1003.0	972.7	..	26.9	25.6	24.8	32.2	89	..	3.8	..	7.3	0	0	29	5	4	3	2	2	7	2	4	1	0	0
	1730	"	999.4	969.5	..	30.1	22.2	25.8	33.1	79	..	4.5	..	8.2	0	0	28	2	4	6	1	1	4	5	5	2	0	0
Ajmer	0830	486	1004.3	950.6	-2.1	25.5	23.3	22.3	26.9	83	+16	5.4	+2.6	6.5	0	0	23	0	3	2	0	1	8	8	1	7	0	0
	1730	"	1000.6	947.7	..	28.9	24.1	22.0	26.1	67	..	4.9	..	6.7	0	0	27	3	3	4	2	1	8	6	0	3	0	0
Kotah	0530	237	1002.9	974.1	..	25.3	24.1	23.4	29.5	89	..	4.3	..	1.1	0	0	9	1	0	0	0	1	0	7	0	21	0	0
	0830	"	1004.4	975.7	-1.6	27.2	24.9	23.8	29.9	82	+13	4.1	+1.1	0.8	0	0	7	0	0	0	0	0	3	4	0	23	0	0
	1130	"	1004.2	975.7	..	29.9	25.6	23.7	29.1	70	..	5.8	..	1.2	0	0	11	0	2	0	0	0	1	1	7	19	0	0
	1730	"	1001.0	972.6	..	29.7	25.8	24.0	30.3	73	..	5.0	..	0.2	0	0	2	0	1	0	0	0	1	0	0	28	0	0
	2330	"	1003.5	974.9	..	26.8	24.8	24.0	29.6	84	..	3.6	..	1.0	0	0	8	0	0	0	0	0	4	3	1	22	0	0
Chambal	0830	331	1004.6	965.6	..	25.8	24.3	23.5	29.4	87	..	4.6	..	2.8	0	0	15	2	0	2	0	1	6	1	3	15	0	0
	1730	"	1001.0	962.5	..	28.1	25.1	23.5	29.2	77	..	5.5	..	5.4	0	0	27	4	1	2	3	2	7	6	2	3	0	0
Jhalawar	0830	321	1004.0	968.2	-1.7	25.8	24.0	23.1	28.1	85	+4	4.3	+0.5	2.1	0	0	21	2	1	1	0	1	5	7	4	9	0	0
	1730	"	1000.7	965.5	..	29.2	25.0	23.3	28.3	72	..	4.3	..	3.2	0	0	25	6	3	0	0	1	3	9	3	5	0	0
Udaipur	0230	582	1003.2	938.9	..	23.0	22.1	21.7	25.7	93	..	4.5	..	0.8	0	0	4	0	0	0	0	1	1	0	2	26	0	0
	0530	"	1003.5	938.9	..	22.5	21.7	21.4	25.2	94	..	5.3	..	1.5	0	0	9	1	0	0	0	2	3	2	1	21	0	0
	0830	"	1004.5	940.6	-2.3	24.5	22.7	21.8	25.2	85	+10	5.4	+2.5	1.8	0	0	13	0	1	0	0	2	5	3	2	17	0	0
	1130	"	1004.6	941.1	..	27.1	23.5	22.0	26.5	76	..	6.2	..	3.5	0	0	19	1	0	1	1	2	9	4	1	11	0	0
	1730	"	1001.6	938.1	..	26.6	23.5	22.2	26.9	78	..	6.2	..	3.7	0	0	21	0	0	0	0	4	9	5	3	9	0	0
	2330	"	1004.5	940.1	..	23.5	22.5	22.1	25.9	92	..	4.0	..	1.4	0	0	9	0	0	0	0	2	5	1	1	21	0	0
Erinpural (Jawai Dam)	0830	295	1004.5	971.5	..	25.2	23.3	22.1	27.6	83	..	5.9	..	2.9	0	0	17	1	0	0	0	6	2	7	1	0	13	0
	1730	"	1001.1	968.5	..	28.9	24.8	22.7	27.8	71	..	6.4	..	3.6	0	0	22	1	1	1	3	6	6	3	1	8	0	0
Madhya Pradesh (West) Gwalior (P.B.O.)	0230	207	1002.2	979.0	..	25.5	24.0	23.3	28.7	88	..	3.6	..	3.6	0	0	12	0	0	3	1	0	4	3	1	18	0	0
	0530	"	1002.5	979.3	..	24.9	23.8	23.2	28.6	90	..	3.8	..	3.3	0	0	13	0	1	4	0	1	3	4	0	17	0	0
	0830	"	1003.7	980.9	-0.8	27.6	24.9	23.7	29.5	80	+4	4.3	+0.5	8.8	0	0	18	2	4	7	3	1	2	6	3	2	0	0
	1130	"	1003.6	980.8	..	30.0	25.4	23.3	27.6	68	..	5.1	..	8.9	0	0	30	5	3	8	2	1	2	6	3	0	0	0
	1730	"	1001.2	977.3	..	30.4	25.2	22.8	28.1	65	..	4.1	..	7.5	0	0	26	4	1	6	5	0	1	7	2	4	0	0
	2330	"	1003.1	979.8	..	26.2	24.3	23.4	28.8	80	..	2.7	..	3.6	0	0	11	0	0	2	0	1	3	4	1	19	0	0
Sheopurkalan	0830	235	1004.2	978.0	..	27.4	25.1	24.1	29.9	82	..	5.0	..	4.8	0	0	24	0	2	4	5	2	3	7	1	6	0	0
	1730	"	1000.0	974.1	..	29.6	25.4	23.6	29.0	71	..	5.5	..	7.8	0	1	27	2	5	4	3	4	2	1	3	2	4	0
Guna	0530	478	1002.7	949.5	..	22.9	22.2	21.9	26.3	94	..	5.2	..	3.0	0	0	17	1	3	2	1	3	3	4	0	13	0	0
	0830	"	1004.2	961.0	-1.7	25.3	23.4	22.7	27.9	85	+2	5.8	+2.1	3.9	0	0	26	5	2	5	0	1	1	12	0	4	0	0
	1130	"	1003.9	961.4	..	28.1	24.0	22.2	28.7	71	..	6.2	..	4.2	0	0												

Division and station	Hour of observation I.S.T.	Height of barometer castern above mean sea level in metres.	Mean pressure in millibars.			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed, (K.m.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Madhya Pradesh (West)—Contd. Ratlam	0830	486	1005.2	950.7	..	23.5	22.3	21.8	26.3	93	..	6.6	..	5.2	0	0	24	0	3	1	0	0	11	9	0	6	0
	1730	"	1001.9	943.3	..	27.0	23.8	22.4	27.3	77	..	6.2	..	13.1	0	0	29	3	1	1	0	0	5	14	5	1	0
Alirajpur	0830	293	1005.8	972.9	..	24.6	23.8	22.9	28.8	91	..	5.9	..	9.8	0	1	27	0	0	0	0	0	12	15	1	2	0
	1730	"	1002.6	969.7	..	27.9	24.3	22.6	27.4	75	..	4.9	..	10.6	0	1	28	0	0	0	0	0	5	20	4	1	0
Indore	0530	567	1003.7	940.6	..	21.9	21.3	21.0	25.0	95	..	5.3	..	12.7	0	5	24	4	1	0	0	2	13	4	5	1	0
	0830	"	1005.1	942.4	-2.1	23.5	22.3	21.7	26.2	90	+7	6.2	+0.8	13.0	0	5	21	4	2	0	0	1	10	5	4	4	0
	1130	"	1004.7	942.5	..	26.1	23.1	21.8	26.0	78	..	6.6	..	16.9	0	7	22	1	5	2	0	0	7	9	5	1	0
	1730	"	1001.2	939.3	..	26.7	23.0	21.2	25.4	73	..	5.7	..	21.0	0	10	20	2	5	1	0	1	9	9	3	0	0
	2330	"	1004.6	941.8	..	23.0	22.1	21.6	26.0	92	..	4.2	..	12.7	0	1	28	2	3	0	0	0	14	6	4	1	0
	0230	523	1002.9	945.0	..	23.0	22.2	21.8	26.2	93	..	4.5	..	9.4	0	0	26	6	3	2	0	0	6	6	3	4	0
Bhopal (Bairagarh)	0530	"	1003.2	945.1	..	22.5	21.9	21.5	25.3	94	..	4.8	..	8.7	0	1	25	6	4	0	1	0	5	6	4	4	0
	0830	"	1004.6	946.8	-1.5	24.6	23.0	22.2	27.0	87	+4	5.3	+0.7	13.5	0	5	22	3	6	1	0	1	1	8	7	3	0
	1130	"	1004.0	946.8	..	27.5	23.8	22.2	26.7	74	..	6.0	..	14.9	0	4	26	3	7	2	1	1	2	7	7	0	0
	1730	"	1000.8	943.7	..	27.1	23.5	21.9	26.2	75	..	6.1	..	15.1	0	2	28	6	6	1	0	0	4	6	7	0	0
	2330	"	1004.0	946.1	..	23.6	22.6	22.1	26.1	91	..	4.3	..	7.9	0	0	25	2	4	0	0	2	4	5	8	5	0
	0830	318	1005.1	969.3	-2.3	25.0	23.5	22.1	27.7	88	+7	6.2	+1.8	5.8	0	0	30	1	0	0	0	3	8	12	6	0	0
	1730	"	1001.0	966.1	..	28.4	24.5	22.8	27.6	73	..	6.2	..	7.6	0	0	29	5	0	0	1	0	11	4	8	1	0
	0830	302	1004.5	970.7	-2.4	25.5	23.9	23.2	28.3	88	+3	6.1	+1.1	3.1	0	0	21	1	1	2	0	1	9	6	1	9	0
Hoshangabad	1730	"	1000.6	967.2	..	28.1	24.7	23.2	28.5	76	..	6.1	..	4.4	0	0	23	6	2	1	0	0	3	10	1	7	0
	0830	653	1004.9	932.9	..	23.2	22.0	21.7	25.7	90	..	6.5	..	5.7	0	0	26	3	1	0	0	0	2	11	9	4	0
Betul	1730	"	1000.8	929.7	..	25.7	22.9	21.6	25.9	79	..	6.7	..	7.6	0	1	25	4	2	1	0	0	3	7	9	4	0
	0830	685	1004.0	929.0	..	24.3	22.4	21.5	25.6	84	..	5.5	..	8.4	0	0	30	6	4	3	1	0	1	4	11	0	0
Chhindwara	1730	"	1000.2	925.9	..	25.6	22.6	21.2	25.1	78	..	6.3	..	7.3	0	0	29	6	5	0	2	1	1	6	8	1	0
	0830	619	1003.3	935.2	-2.7	24.5	22.8	22.1	26.6	89	+10	6.6	+2.3	3.3	0	0	21	6	2	0	0	2	2	1	8	9	0
Seoni	1730	"	1001.7	932.3	..	25.6	22.9	21.7	25.7	80	..	6.3	..	2.5	0	0	20	4	3	0	1	2	4	0	6	10	0
	0830	551	1004.0	943.1	-1.9	24.3	22.9	22.3	26.9	89	+8	5.4	+1.2	10.3	0	1	27	0	8	5	1	0	1	9	4	2	0
Sagar	1730	"	1000.4	940.1	..	26.8	23.7	22.3	27.0	77	..	5.5	..	4.8	0	1	26	0	6	5	1	0	2	9	4	3	0
	0830	229	1004.2	978.6	-1.5	26.8	24.7	23.6	29.3	83	+2	4.9	+0.9	5.5	0	0	29	3	9	2	1	2	9	3	0	1	0
Nowgong	1730	"	1000.4	975.2	..	29.8	25.1	23.1	27.9	69	..	4.5	..	5.1	0	0	25	4	8	2	1	2	7	1	0	5	0
	0530	317	1002.2	966.7	..	24.5	23.8	23.4	28.9	93	..	6.4	..	1.7	0	0	13	1	3	4	1	0	0	4	0	17	0
Madhya Pradesh (East) Sana	0830	"	1003.7	968.4	-1.4	26.2	24.4	23.5	29.3	85	+5	5.7	+1.6	2.9	0	0	21	1	4	6	1	0	2	7	0	9	0
	1130	"	1003.2	968.2	..	28.6	24.9	23.2	28.6	73	..	6.7	..	4.5	0	0	23	0	5	7	1	1	1	7	1	7	0
	1730	"	1000.1	965.2	..	28.1	24.9	23.6	28.9	76	..	6.1	..	2.8	0	0	17	1	3	8	0	0	0	4	1	13	0
	2330	"	1002.7	967.4	..	25.5	24.3	23.8	29.4	90	..	5.2	..	1.0	0	0	7	0	2	4	0	0	0	1	0	23	0
	0830	..	..	..	..	26.1	24.2	23.1	28.6	82	..	4.8	..	3.3	0	0	25	2	3	8	1	3	1	6	1	5	0
Sidhi	1730	..	..	..	..	28.1	24.8	22.7	28.5	74	..	4.0	..	2.6	0	0	23	2	0	12	0	1	0	8	0	7	0
	0830	439	1003.0	952.8	..	25.6	23.6	22.7	27.7	84	+4	5.2	-0	5.1	0	0	26	2	6	4	3	0	1	7	3	4	0
Umari	1730	"	999.7	949.5	..	27.3	24.5	23.6	28.7	79	..	6.2	..	2.4	0	0	13	0	3	0	1	0	1	0	8	17	0
	0530	393	1002.4	958.6	..	24.1	23.4	23.0	28.2	94	..	6.0	..	3.6	0	0	19	3	7	0	1	1	3	4	0	11	0
Jabalpur	0830	"	1003.7	960.3	-1.7	26.2	24.0	23.0	29.3	83	+2	5.7	+1.2	6.1	0	0	27	4	5	2	3	2	5	5	1	3	0
	1130	"	1003.0	959.9	..	28.8	25.0	23.3	28.6	73	..	5.5	..	8.0	0	0	30	6	5	0	2	1	3	7	6	0	0
	1730	"	1000.1	957.0	..	28.2	24.7	23.1	28.9	75	..	6.1	..	7.2	0	0	30	5	6	3	1	3	1	9	2	0	0
	2330	"	1003.1	959.5	..	25.1	23.8	23.1	28.5	88	..	4.9	..	5.5	0	0	21	3	2	3	4	1	3	5	0	9	0
	0830	443	1003.6	954.6	..	25.3	23.4	22.5	27.2	84	..	5.8	..	1.9	0	0	7	5	0	0	0	2	0	0	0	23	0
Pendra	1730	"	1000.0	951.5	..	26.9	24.0	22.6	27.5	78	..	5.5	..	2.8	0	0	15	6	2	0	0	1	1	2	3	15	0
	0530	625	1002.3	933.5	..	22.3	21.6	21.3	25.4	94	..	6.4	..	4.0	0	0	19	7	2	0	2	2	1	1	4	11	0
Ambikapur	0830	"	1003.7	935.1	-2.2	23.9	22.6	21.9	26.4	89	+7	6.6	+2.3	5.2	0	0	24	10	0	1	1	2	1	1	5	6	0
	1130	"	1002.8	934.8	..	26.3	23.7	22.5	27.2	80	..	7.1	..	7.3	0	2	28	11	4	3	1	3	1	1	6	0	0
	1730	"	1000.2	932.1	..	25.0	23.1	22.3	26.8	85	..	7.2	..	7.0	0	1	28	11	1	2	2	5	4	1	3	1	0
	2330	"	1003.1	934.3	..	23.1	22.3	21.9	26.5	93	..	5.9	..	4.6													

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (K.m.p.h.)			No of observations										
			At mean sea level or height in ft. of the nearest standard barometric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal	Mean wind speed K.m. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
Madhya Pradesh (East)—(Cont.) Raipur	0530	298	1002.5	969.2	..	24.4	23.8	23.4	29.1	94	..	6.3	..	4.8	0	0	21	1	1	0	3	4	5	7	0	9	0
"	0830	"	1004.0	970.7	-1.9	26.1	24.6	23.6	29.0	85	+4	6.2	+1.6	5.8	0	0	25	2	2	1	1	5	4	7	3	5	0
"	1130	"	1003.3	970.3	..	28.4	24.9	23.4	28.6	75	..	6.7	..	5.7	0	0	25	1	2	2	1	5	3	8	3	5	0
"	1730	"	1000.3	967.3	..	26.3	24.7	23.3	29.7	78	..	7.0	..	5.2	0	0	22	1	2	1	0	4	5	7	2	8	0
"	2330	"	1002.8	969.8	..	25.3	24.3	23.8	29.5	92	..	5.3	..	4.9	0	0	22	0	2	0	2	4	5	8	1	8	0
Kanker	0830	402	1004.1	959.6	-1.7	25.4	23.3	22.3	27.0	83	+1	4.7	-0.9	0.9	0	0	6	0	0	0	0	0	4	1	1	24	0
"	1730	"	1000.6	956.5	..	26.7	24.1	22.8	27.7	78	..	6.2	..	2.2	0	0	16	0	2	1	0	0	13	0	0	14	0
Jagdalpur (P.B.O.)	0530	553	1003.1	942.0	..	22.5	21.8	21.5	25.8	94	..	6.7	..	3.5	0	0	17	0	1	0	0	2	12	1	1	13	0
"	0830	"	1004.4	943.7	-1.8	24.6	22.7	21.9	26.1	85	+1	6.4	+1.4	4.4	0	0	22	1	1	0	0	3	14	1	2	8	0
"	1130	"	1003.3	943.0	..	27.0	23.4	21.8	26.1	74	..	6.4	..	5.0	0	0	24	2	3	0	1	1	9	6	2	6	0
"	1730	"	1001.1	940.8	..	25.7	23.2	22.1	26.5	81	..	7.5	..	5.6	0	0	23	0	1	0	1	3	9	6	3	7	0
"	2330	"	1003.7	942.8	..	23.5	22.5	22.0	27.0	91	..	6.4	..	2.4	0	0	17	0	0	0	0	5	7	3	2	13	0
Gujarat Deca	0830	136	1004.9	989.5	-2.2	25.5	24.4	23.8	29.6	91	..	6.2	..	6.7	0	0	28	3	2	0	5	6	4	2	6	2	0
"	1730	"	1001.8	986.6	..	28.4	25.0	23.4	28.9	76	..	5.8	..	8.4	0	0	30	1	2	0	4	7	9	4	3	0	0
Radhanpur	0830	30	1014.6	1001.2	..	26.7	24.3	23.1	28.4	82	..	5.1	..	7.5	0	0	30	2	0	0	0	1	2	25	0	0	0
"	1730	"	1002.5	999.1	..	29.6	26.4	24.8	31.8	76	..	4.4	..	6.1	0	0	30	2	0	0	0	0	3	24	1	0	0
Idar	0830	219	1005.0	980.4	..	25.0	23.8	23.2	28.6	90	..	6.3	..	5.2	0	0	29	6	1	0	3	1	10	4	4	1	0
"	1730	"	1001.8	977.4	..	28.0	24.7	23.2	28.3	76	..	7.0	..	6.4	0	0	28	2	1	0	1	5	8	10	1	2	0
Ahmedabad	0230	55	1003.6	997.3	..	25.1	24.3	23.9	29.7	94	..	5.2	..	9.2	0	0	28	3	0	0	0	4	8	10	3	2	0
"	0530	"	1003.5	997.2	..	24.6	23.9	23.6	29.1	94	..	5.1	..	8.9	0	1	27	2	0	1	0	3	8	8	6	2	0
"	0830	"	1005.2	998.9	-2.6	25.8	24.6	24.1	29.8	90	+14	6.0	+1.9	11.1	0	1	29	2	1	0	0	4	10	6	7	0	0
"	1130	"	1005.5	999.3	..	28.6	25.3	23.8	29.5	76	..	6.1	..	13.2	0	3	27	3	0	0	0	2	12	6	7	0	0
"	1730	"	1002.1	955.9	..	29.0	25.4	23.9	29.5	75	..	5.8	..	12.1	0	3	26	2	0	0	0	4	7	12	4	1	0
"	2330	"	1004.6	998.3	..	25.7	24.6	24.1	29.9	91	..	5.6	..	7.4	0	0	24	0	1	0	0	5	7	7	4	6	0
Dohad	0830	333	1005.1	967.8	..	24.4	23.4	22.8	27.9	91	+5	5.6	-0.1	17.0	0	8	20	1	0	1	1	1	12	11	1	2	0
"	1730	"	1002.0	965.4	..	27.5	24.1	22.5	27.3	76	..	5.0	..	17.5	0	8	22	1	0	0	0	0	23	5	1	0	0
Baroda	0530	34	1004.1	1000.1	..	24.9	24.4	24.1	30.1	96	..	(b)4.6	..	..	..	..	..	0	0	0	0	1	7	1	0	20	0
"	0830	"	1005.8	1001.8	..	26.1	25.1	24.6	31.1	92	+11	(b)5.3	+0.9	..	..	..	..	0	1	0	0	0	12	3	2	11	0
"	1130	"	1006.0	1002.1	..	29.2	25.8	24.4	30.6	76	..	(b)5.8	..	..	..	..	..	0	2	0	0	0	14	6	2	5	0
"	1730	"	1002.6	998.7	..	29.3	25.7	24.0	30.1	74	..	(b)4.8	..	..	..	..	..	0	0	0	0	0	14	5	2	8	0
"	2330	"	1005.2	1001.2	..	25.9	24.9	24.5	30.7	92	..	(b)4.3	..	..	..	..	..	0	0	0	0	1	13	1	0	14	0
Baroda (Aerodrome)	0830	38	1005.6	1001.3	..	26.2	25.0	24.5	30.7	91	..	5.9	..	6.8	0	0	28	1	1	1	0	5	11	6	3	2	0
"	1130	"	1005.7	1001.6	..	29.0	25.7	24.1	30.2	76	..	5.9	..	7.8	0	0	30	1	1	0	0	1	13	9	5	0	0
"	1730	"	1002.3	998.1	..	29.3	25.6	24.0	29.7	74	..	5.5	..	9.2	0	2	27	0	1	0	1	3	12	7	5	1	0
Breach	0830	17	1005.4	1003.4	..	25.8	24.8	24.3	30.7	92	..	5.5	..	4.7	0	0	30	2	3	0	1	7	12	3	2	0	0
"	1730	"	1002.4	1000.4	..	29.1	25.4	23.7	29.6	73	..	5.0	..	9.9	0	0	29	0	3	0	1	1	20	0	4	1	0
Surat	0530	12	1004.3	1003.0	..	25.3	24.4	24.0	30.0	93	..	(c)4.4	..	(c)7.0	0	0	26	1	1	0	2	4	11	4	3	2	0
"	0830	"	1006.1	1004.8	-1.9	26.3	25.2	24.6	31.1	90	+9	(b)5.9	+0.7	(b)4.8	0	0	26	3	0	0	1	2	11	6	3	3	0
"	1130	"	1006.3	1005.0	..	28.9	25.9	24.6	31.0	78	..	(b)5.5	..	(b)10.6	0	0	29	3	2	0	0	1	14	5	4	0	0
"	1730	"	1003.2	1001.9	..	29.1	25.8	24.3	30.4	76	..	(c)5.0	..	(c)6.7	0	0	28	0	0	1	0	1	19	4	3	0	0
"	2330	"	1005.5	1004.2	..	26.5	25.0	24.4	30.5	89	..	(c)3.8	..	(c)8.1	0	0	27	1	1	0	0	6	16	2	0	1	1
Saurashtra and Kutch Naliya	0830	21	1004.2	1001.8	..	25.9	24.9	24.5	30.7	92	..	5.9	..	10.0	0	1	26	0	1	0	1	4	15	5	1	3	0
"	1730	"	1002.2	999.8	..	27.5	25.3	24.2	30.4	83	..	6.4	..	19.1	0	11	19	0	0	0	0	4	13	12	1	0	0
Bhuj (Aerodrome)	0230	80	1003.1	993.9	..	24.2	23.6	23.3	28.7	95	..	4.1	..	9.5	0	2	21	0	0	0	0	0	11	12	0	7	0
"	0530	"	1002.9	993.7	..	23.9	23.4	23.2	28.3	96	..	4.0	..	10.0	0	2	22	0	0	0	0	0	13	10	1	6	0
"	0830	"	1004.5	995.3	..	25.3	24.4	24.1	30.0	92	..	5.3	..	10.5	0	2	25	0	0	0	0	3	14	8	2	3	0
"	1130	"	1004.9	995.9	..	28.0	25.0	23.7	29.2	79	..	6.1	..	15.6	0	7	23	1	0	0	0	3	16	6	4	0	0
"	1730	"	1001.8	993.1	..	27.9	25.0	23.6	29.3	79	..	5.4	..	17.6	0	11	18	1	0	0	0	1	17	7	3	1	0
"	2330	"	1004.4	995.2	..	24.9	24.1	23.8	29.3	94	..	4.4	..	12.1	0	1	27	0	0	0	0	1	15	11	1	3	0
Kandla	0830	14	1005.3	1003.7	..	26.4	24.6	23.9	29.4	86	..	5.0	..	14.8	0	7	23	0	0	0	0	4	12	1			

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind velocity Km. per hour.	Wind speed (Km.p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal.		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Saurashtra and Kutch (Contd.) Porbander (Aerodrome)	0830	7	1005.5	1004.7	..	27.2	24.9	24.0	29.6	83	..	5.5	..	14.7	0	5	25	1	0	0	0	1	11	9	8	0	0
	1130	"	1006.0	1005.2	..	29.1	25.3	24.0	29.1	74	..	5.4	..	19.7	0	13	17	1	0	0	0	2	13	11	3	0	0
	1730	"	1003.3	1002.5	..	28.3	25.0	23.7	29.0	77	..	5.0	..	19.7	0	13	17	1	0	0	0	2	10	13	4	0	0
Jamnagar	0530	23	1003.5	1000.9	..	24.2	23.6	23.4	28.8	95	..	4.5	..	14.3	0	7	22	0	0	0	0	3	22	4	0	1	0
	0830	"	1005.1	1002.5	-2.3	26.1	24.8	24.2	30.2	89	+11	5.3	+1.7	15.7	0	7	22	0	0	0	0	3	18	6	2	1	0
	1130	"	1005.5	1002.9	..	28.7	25.5	24.0	30.4	77	..	6.3	..	23.4	0	18	12	0	0	0	0	1	14	11	4	0	0
Rajkot (Aerodrome)	1730	"	1002.5	1000.0	..	28.4	25.1	23.6	29.1	76	..	5.7	..	26.5	0	22	8	0	0	0	0	1	10	15	4	0	0
	0830	138	1005.2	989.7	-2.3	25.1	24.2	23.8	29.6	93	+12	4.6	+0.3	16.5	0	7	23	0	0	0	0	5	15	8	2	0	0
	1130	"	1005.4	990.0	..	28.2	24.9	23.3	28.8	75	..	5.0	..	20.2	0	15	15	1	0	0	0	1	18	5	5	0	0
Surendranagar	1730	"	1002.2	986.9	..	28.4	25.0	23.3	28.9	76	..	4.6	..	23.5	0	17	13	0	0	0	0	0	18	7	5	0	0
	0830	74	1005.2	996.8	..	26.0	24.6	24.0	29.8	89	..	5.3	..	12.9	0	4	26	1	0	0	0	4	11	8	6	0	0
Bhavnagar	1730	"	1001.8	993.5	..	29.8	25.9	24.0	30.4	74	..	5.5	..	11.6	0	2	28	1	1	0	0	2	12	8	6	0	0
	0830	17	1005.8	1003.9	-1.9	26.4	24.6	23.8	29.4	86	+11	3.4	-1.2	7.1	0	0	30	0	0	0	0	0	17	5	8	0	0
Bhavnagar (Aero- drome).	1730	"	1002.7	1000.8	..	29.1	25.5	23.8	29.7	75	..	5.5	..	4.7	0	0	27	0	0	1	1	4	10	7	4	3	0
	0830	11	1005.6	1004.4	..	26.4	24.6	23.7	29.4	85	..	4.0	..	15.7	0	3	27	1	0	0	0	1	17	5	6	0	0
	1130	"	1005.9	1004.7	..	29.5	25.4	23.4	29.1	71	..	5.2	..	17.1	0	4	26	3	1	0	0	0	13	10	3	0	0
Mahuva	1730	"	1002.7	1001.5	..	29.2	25.7	24.1	30.1	76	..	5.1	..	20.1	0	14	13	0	2	1	2	4	14	3	1	3	0
	0830	16	1005.8	1004.0	..	26.3	25.3	24.9	31.4	92	..	4.4 (f)	..	10.1 (f)	0	0	22	0	0	0	0	1	8	8	5	3	0
Kesiod	1730	"	1003.1	1001.4	..	28.3	26.7	25.9	33.6	88	..	4.6 (f)	..	19.6 (f)	0	11	13	0	0	0	1	7	10	3	3	1	0
	0830	51	1006.0	1000.2	..	25.7	24.4	23.8	29.6	89	..	5.1	..	14.5	0	8	18	2	1	0	1	1	11	6	4	4	0
Vraval	1130	"	1006.4	1000.6	..	28.6	24.9	23.3	28.6	74	..	6.0	..	23.6	0	16	14	1	0	0	0	0	11	14	4	0	0
	1730	"	1003.7	1007.9	..	27.9	24.7	23.4	28.6	78	..	4.9	..	28.8	0	28	2	1	0	0	0	1	10	17	1	0	0
	0230	8	1004.4	1003.5	..	25.8	24.3	23.6	29.6	87	..	4.0	..	14.9	0	6	24	4	1	0	0	0	10	11	4	0	0
	0530	"	1004.2	1003.3	..	25.7	24.1	23.4	28.6	87	..	4.0	..	14.5	0	7	22	5	1	0	0	0	9	12	2	1	0
Kankan Dahanu.	0830	"	1005.8	1004.9	-2.4	26.5	24.6	23.7	29.2	85	+1	5.0	+0.5	17.9	0	13	15	5	0	0	0	0	8	12	3	2	0
	1130	"	1006.4	1005.5	..	28.2	25.2	23.9	29.5	78	..	5.9	..	20.0	0	15	15	0	1	0	0	1	8	14	6	0	0
	1730	"	1003.7	1002.8	..	27.6	25.1	23.9	29.8	80	..	5.1	..	19.9	0	10	20	1	0	0	0	0	7	16	6	0	0
	2330	"	1005.7	1004.8	..	26.3	24.5	23.7	29.3	86	..	4.1	..	15.7	0	7	23	2	0	0	0	0	10	11	7	0	0
Bombay (Colaba)	0830	5	1006.3	1005.8	-0.8	26.9	25.5	24.8	31.5	89	-1	6.1	-0.5	15.8	0	11	19	2	0	3	7	5	4	6	3	0	0
	1730	"	1004.0	1003.5	..	28.4	26.2	25.3	32.2	84	..	5.7	..	24.4	0	19	11	5	1	0	0	2	7	11	4	0	0
Bombay (Santaacruz Aerodrome).	0830	11	1006.9	1005.7	-2.0	26.4	24.9	24.2	30.2	88	+3	5.9	+0.2	8.9	0	0	27	0	4	2	2	1	5	12	1	3	0
	1130	"	1007.2	1006.0	..	28.9	26.0	24.8	31.4	79	..	5.2	..	11.8	0	3	26	1	0	1	0	3	4	17	3	1	0
	1730	"	1004.6	1003.4	..	27.9	25.5	24.5	30.7	82	..	5.2	..	14.4	0	4	26	1	0	0	0	0	5	15	9	0	0
Alibag	0230	15	1005.3	1003.6	..	25.2	24.2	23.7	29.3	92	..	5.6	..	10.0	0	1	22	0	1	3	0	0	8	9	2	7	0
	0530	"	1005.2	1003.5	..	25.0	24.1	23.7	29.2	92	..	5.8	..	9.9	0	3	26	0	4	7	1	0	6	7	4	1	0
	0830	"	1006.9	1005.3	-2.0	26.7	25.0	24.2	30.3	86	+1	6.6	+0.9	12.3	0	5	25	0	2	4	4	1	6	9	4	0	0
	1130	"	1007.1	1005.5	..	28.4	25.7	24.5	30.7	80	..	6.2	..	16.7	0	10	19	2	0	0	1	0	7	14	5	1	0
Harnai	1730	"	1004.5	1002.9	..	27.6	25.1	24.0	29.8	81	..	6.3	..	19.0	0	13	17	4	0	0	0	0	6	10	10	0	0
	2330	"	1006.7	1005.0	..	26.6	24.4	23.9	29.7	90	..	5.5	..	9.9	0	2	23	1	1	1	0	2	8	9	3	3	0
	0830	7	1007.0	1006.2	-2.0	26.3	24.4	24.2	30.3	88	+5	6.0	+0.2	10.3	0	3	23	3	1	1	5	1	10	4	1	4	0
Ratnagiri	0830	20	1006.8	1004.5	-1.3	26.3	24.4	24.0	29.6	88	+3	5.9	..	11.6	0	5	17	2	3	2	0	1	3	7	2	8	0
	1730	"	1004.8	1002.5	..	27.0	25.1	24.5	31.0	86	..	6.5	..	22.7	0	15	14	1	0	0	0	2	4	14	8	1	0
Devgad	0830	35	1007.8	1008.8	-1.5	26.0	24.4	23.8	29.5	88	..	5.4	..	..	0	..	..	0	0	15	0	0	3	12	0	0	0
	1730	"	1005.3	1001.3	..	27.3	25.4	24.5	30.7	84	..	5.9	..	..	0	..	..	0	0	0	0	0	6	18	6	0	0
Vengurla	0830	36	1008.0	1004.0	-0.6	26.1	22.4	24.2	30.6	90	0	6.3	-0.3	16.0	0	10	19	0	3	3	2	0	4	13	4	1	0
	1730	"	1005.4	1001.4	..	27.2	25.5	24.7	31.2	86	..	6.2	..	22.8	0	22	8	1	0	0	0	0	2	15	12	0	0
	0230	9	1006.7	1005.7	..	25.1	24.4	24.0	29.7	93	..	6.3	..	1.6	0	0	10	1	0	0	0	0	3	4	2	20	0
	0530	"	1006.7	1005.7	..	24.9	24.2	23.9	29.6	94	..	6.0	..	2.4	0	0	14	4	0	1	1	0	5	3	1	18	0
Maharashtra (Inclu- ding Marathwada) Nandurbar	0830	"	1008.5	1007.5	..	26.2	24.9	24.3	30.4	89	..	6.3	..	2.4	0	0	16	1	1	0	0	1	10	2	1	14	0
	1130	"</																									

Table with 28 columns: 1. Division and station, 2. Hour of observation I.S.T., 3. Height of barometer, 4-6. Mean pressure in millibars (At mean sea level, At station level, Departure from normal), 7-9. Mean Temperature in °C (Dry bulb, Wet bulb, Dew Point), 10. Vapour pressure in mbs., 11. Relative humidity %, 12. Departure from normal, 13-15. Cloud amount (Oktas) (Mean amount, Departure from normal, Mean wind speed), 16-18. Wind speed (Km.p.h.) (62 or more, 20 to 61, 1 to 19), 19-28. No. of observations (Wind direction: N, NE, E, SE, S, SW, W, NW, Calm, Variable).

Division and station	Hour of observation I.S.T.	Height of barometer cipher above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mb.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations																					
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure normal	Mean wind speed, Km. per hour	Wind direction			19	20	21	22	23	24	25	26	27	28											
															62 or more	20 to 61	1 to 19											N	NE	E	SE	S	SW	W	NW	Calm	Variable	
																										13	14	15	16	17	18	19	20	21	22	23	24	25
Telangana—(Contd.)																																						
Hakimpet	0530	613	1004.6	936.8	..	21.9	20.9	20.4	24.0	91	..	5.9	..	14.2	0	12	16	3	1	0	1	1	4	13	5	2	0											
	0830	"	1005.7	938.2	..	23.7	21.6	20.6	24.3	83	..	6.3	..	15.9	0	13	17	3	1	0	0	0	7	14	5	0	0											
	1130	"	1004.8	938.0	..	26.2	22.5	20.7	24.4	72	..	6.7	..	17.2	0	14	16	6	1	0	0	0	3	14	6	0	0											
	1730	"	1001.9	935.2	..	26.9	22.8	20.9	24.7	70	..	6.2	..	11.5	0	3	27	7	3	1	0	0	4	12	3	0	0											
Hanamkonda	0830	269	1005.3	975.4	-1.8	26.1	23.6	22.4	27.1	80	+3	4.8	-0.2	5.7	0	0	30	9	0	0	0	2	2	14	3	0	0											
	1730	"	1002.0	972.4	..	29.0	24.7	22.6	27.4	70	..	4.8	..	5.2	0	0	30	10	3	0	0	1	1	10	5	0	0											
Bhadrachallam	0830	111	1005.6	993.2	..	27.2	25.1	24.1	30.0	83	..	5.6	..	4.8	0	0	24	4	0	0	0	0	3	10	7	6	0											
	1730	"	1001.3	989.0	..	29.8	26.0	24.5	30.7	74	..	5.9	..	4.6	0	0	29	7	1	2	1	2	3	10	3	1	0											
Khammameth	0830	112	1007.0	993.0	..	27.1	24.9	24.0	29.8	83	..	6.1	..	5.2	0	0	21	2	0	0	0	2	5	9	3	9	0											
	1730	"	1001.5	989.1	..	30.5	25.8	23.5	28.9	68	..	7.6	..	5.0	0	0	25																					
Rayalaseema																																						
Arogyavaram	0830	701	1007.2	930.5	..	24.2	21.0	19.3	22.4	74	..	5.3	..	4.6	0	0	23																					
	1730	"	1002.4	927.0	..	28.0	22.0	18.9	21.8	60	..	6.9	..	6.1	0	0	25	1	2	1	0	0	3	10	8	5	0											
Cuddapah	0830	130	1007.5	992.9	-1.2	28.8	24.0	21.6	25.8	66	-5	4.8	-0.6	3.9	0	0	15	0	0	0	0	0	0	14	1	15	0											
	1730	"	1002.1	987.8	..	32.4	24.8	21.0	24.9	53	..	5.5	..	5.3	0	0	18	0	2	0	0	0	0	13	3	12	0											
Anantapur	0530	350	1005.9	966.7	..	24.1	21.7	20.4	24.0	81	..	5.9	..	10.4	0	1	23	1	0	1	0	0	5	14	3	6	0											
	0830	"	1007.3	968.4	..	25.9	22.3	20.5	24.1	72	..	6.4	..	12.8	0	5	23	0	1	0	0	0	5	19	3	2	0											
	1130	"	1005.9	967.5	..	29.7	23.2	19.7	22.9	56	..	5.6	..	15.0	0	9	19	1	3	0	0	1	5	15	3	2	0											
	1730	"	1002.9	964.0	..	30.5	23.1	19.5	22.7	52	..	6.4	..	14.9	0	8	19	2	2	0	0	0	1	16	6	3	0											
	2330	"	1006.4	967.6	..	26.4	22.6	20.3	23.8	70	..	5.9	..	13.9	0	4	24	0	1	2	0	4	5	15	1	2	0											
Kurnool	0830	281	1005.9	975.7	-1.1	25.9	22.9	21.4	25.5	77	+2	7.3	+1.9	14.7	0	9	19	0	3	1	0	0	14	6	4	2	0											
	1730	"	1002.0	971.1	..	30.5	23.3	20.4	24.0	56	..	6.9	..	11.9	0	5	23	0	1	4	2	0	1	17	3	2	0											
Madras State																																						
Palayamcottai	0830	51	1008.1	1002.4	..	30.3	23.6	20.3	23.8	56	..	4.7	..	8.8	0	1	29	7	0	0	0	1	3	18	1	0	0											
	1730	"	1004.5	998.9	..	30.7	23.8	20.1	23.5	54	..	5.8	..	13.7	0	5	25	3	0	0	1	2	1	20	3	0	0											
Tuticorin	0830	4	1008.4	1008.0	..	30.0	24.1	21.2	25.2	59	..	4.1	..	14.1	0	3	27	3	1	1	0	1	6	15	3	0	0											
	1730	"	1004.6	1004.2	..	32.2	24.6	20.8	24.6	52	..	3.7	..	20.9	0	14	16	0	0	0	2	7	4	15	2	0	0											
Pamban	0830	11	1007.8	1006.5	-1.5	28.9	26.0	24.7	31.1	79	+2	3.1	+0.2	8.8	0	1	26	1	0	0	1	11	14	1	0	0	0											
	1730	"	1004.9	1003.6	..	28.6	26.1	25.1	31.9	82	..	4.0	..	16.9	0	7	23	5	0	1	3	17	8	1	0	0	0											
Tondi	0830	5	1008.0	106.4	..	2.91	24.9	22.9	27.9	70	..	4.5	..	7.3	0	0	15	0	1	0	0	5	7	2	0	15	0											
	1730	"	1004.2	1003.6	..	3.09	26.1	24.2	30.2	71	..	5.6	..	29.6	0	22	8	0	0	0	10	15	2	2	1	0	0											
Mathurai	0830	131	1007.8	992.9	-0.7	27.9	23.6	21.5	25.6	68	+2	6.9	+2.1	2.6	0	0	26	0	1	0	2	0	3	0	20	4	0											
	1730	"	1003.3	988.6	..	21.7	24.2	2.04	24.0	53	..	7.5	..	5.2	0	0	26	0	3	0	7	0	9	0	7	4	0											
Mathurai (Aerodrome)	0530	131	1006.4	991.4	..	35.6	22.2	2.04	24.0	74	..	3.9	..	3.1	0	0	22	7	1	1	0	2	2	8	1	8	0											
	0830	"	1008.1	993.2	..	38.3	23.3	20.5	24.1	63	..	3.8	..	6.5	0	1	26	11	1	0	0	0	6	3	5	3	1											
	1130	"	1007.1	992.4	..	32.6	23.8	18.9	21.8	45	..	3.6	..	8.6	0	4	26	6	0	2	0	0	8	11	3	0	0											
	1730	"	1004.0	989.3	..	31.3	23.5	19.3	22.4	51	..	5.2	..	15.4	0	14	16	0	0	4	2	6	1	15	1	0	1											
Nagapattinam	0830	9	1008.0	1006.9	-1.1	28.7	24.7	22.9	27.9	71	..	5.3	+1.1	10.6	0	1	29	0	0	1	0	1	13	13	2	0	0											
	1730	9	1013.8	1002.7	..	31.1	26.0	23.7	29.3	66	..	4.8	..	19.4	0	10	20	0	1	2	9	7	9	4	1	0	0											
Tiruchirappalli	0230	88	1005.5	995.6	..	26.3	23.3	21.8	26.1	77	..	4.0	..	16.7	0	10	14	0	0	0	0	0	0	22	2	6	0											
	0530	"	1005.9	995.9	..	25.7	23.0	21.7	25.9	79	..	3.9	..	17.9	0	10	17	0	0	0	0	0	1	25	1	3	0											
	0830	"	1007.6	997.7	-1.6	28.2	23.9	21.9	26.3	69	-3	4.3	+0.1	22.8	0	16	14	0	0	0	0	0	1	27	2	0	0											
	1130	"	1006.3	996.5	..	32.5	25.0	21.3	25.3	53	..	5.0	..	24.5	0	19	10	0	0	0	0	0	3	19	6	1	1											
	1730	"	1003.1	993.4	..	31.9	24.9	21.1	25.0	55	..	5.9	..	20.1	0	11	18	0	1	0	1	7	5	11	4	1	0											
	2330	"	1007.1	997.2	..	27.2	23.7	22.0	26.4	74	..	4.7	..	17.6	0	9	18	0	0	0	1	4	4	18	0	3	0											
Coimbatore	0830	409	1008.3	962.8	-1.2	25.3	22.3	20.7	24.4	76	-5	6.0	+2.1	17.0	0	7	23	0	0	0	0	14	16	0	0	0	0											
	1730	"	1004.1	959.3	..	27.4	22.9	20.7	24.4	67	..	6.6	..	20.9	0	17	13	0	0	0	0	13	15	2	0	0	0											
Coimbatore (Peelamedu Aerodrome)	0530	400	1007.1	962.2	..	22.1	21.6	21.3	25.3	95	..	5.2	..	15.6	0	10	16	0	0	0	1	10	14	1	0	4	0											
	0830	"	1008.4	963.8	..	24.8	22.7	21.6	25.8	82	..	4.7	..	17.6	0	10	20	0	0	0	5	8	17	0	0	0	0											
	1130	"	1007.0	963.2	..	29.5	23.9	21.2	25.2	61	..	5.1	..	26.6	0	19	11	0	1	1	8	3	15	2	0	0	0											
	1730	"	1004.4	960.3	..	27.1	23.4	21.5	25.6	71	..	6.0	..	35.3	0	27	3	0	0	0	3	5	19	3														

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—SEPTEMBER, 1959 (BHADRE 10, —ASVINA 8, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in meters	Mean pressure in millibars			an temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in 800m of nearest standard isobaric level	At station level	Departure from nominal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Hydrometeorological Observatories—(Contd.)																												
Gandak Catchment—(Contd.)																												
Jomosom	0830	..	..	..	..	16.6	12.7	10.5	12.5	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.3	13.2	10.7	12.8	65	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	18.3	16.8	15.9	18.2	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.9	18.2	16.9	19.1	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																												
Dailekh	0830	..	..	..	..	21.0	19.9	19.3	22.4	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	22.4	20.6	19.8	23.0	84	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																												
Dandeldhure†	0830	..	..	..	..	18.2	17.5	17.2	19.6	93	..	6.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.3	18.1	17.4	20.0	89	..	6.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	27.8	25.2	23.9	30.0	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	28.7	26.1	25.2	31.7	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																												
Katmandu†	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																												
Chautara	0830	..	..	..	..	20.5	19.5	19.1	22.1	91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.7	19.9	19.3	22.2	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga*	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barahshetra	0830	146	1005.5	989.1	..	26.1	24.4	23.6	29.3	86	..	5.2	..	3.1	0	0	26	0	1	0	1	1	9	8	6	4	0	0
	1130	"	1004.5	988.3	..	29.0	25.5	24.0	29.8	75	..	6.1	..	8.8	0	0	28	1	1	0	0	0	13	12	1	2	0	0
	††1730	"	1001.7	985.4	..	27.6	25.6	24.8	31.2	84	..	6.0	..	3.7	0	0	20	0	5	3	1	0	7	4	0	10	0	0
Angbung	0830	..	..	..	..	22.5	20.9	20.0	23.4	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	24.9	21.4	19.7	22.9	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	20.2	18.3	17.4	19.9	84	..	5.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	22.7	19.8	18.2	20.9	77	..	5.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.4	18.2	17.3	19.7	82	..	6.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur	0830	..	..	..	..	20.1	18.8	18.1	20.9	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.8	19.0	18.7	21.5	98	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	0830	..	..	..	..	14.3	11.5	9.8	12.0	74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.5	10.8	10.2	12.6	95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	22.3	19.8	18.5	21.3	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.9	19.9	18.9	21.8	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	0830	..	..	..	..	21.9	20.8	20.3	23.8	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	23.0	21.1	20.2	23.6	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																												
Gangtok	0830	1812	1479.4	818.0	..	17.7	16.9	16.3	18.8	92	..	6.1	..	2.7	0	0	18	7	1	0	0	4	1	5	0	12	0	0
	1130	"	1470.6	817.4	..	20.0	18.4	17.5	20.2	85	..	6.5	..	4.1	0	0	26	0	0	0	3	6	13	3	1	4	0	0
	1730	"	1452.0	815.5	..	18.3	17.5	17.0	19.5	92	..	6.6	..	2.8	0	0	17	0	1	0	1	8	4	2	1	13	0	0
Geyzing	0830	..	..	..	..	20.7	19.2	18.5	21.3	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.3	18.8	18.0	20.8	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

††Observations for 27 days.

†Observations for 26 days.

† Date included under "Hills stations".

*Data not available

MONTHLY MEANS OF UPPER WINDS

SEPTEMBER, 1959 (Bhadra 10, —Asvina 8, 1881 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the Table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a. m. s. l. are given under Table IV and data above 9.0 km. a. m. s. l. under Table V.

In Tables IV and V :

n—represents the number of observations ;

V—represents the mean wind speed in metres per second* irrespective of direction ;

v—represents the resultant mean velocity in metres per second* ;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km. a. g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a. m. s. l. Of these the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a. m. s. l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
Agartala	23°53'	91°15'	17	28th November, 1951	0530	1730	2330
Ahmedabad	23°04'	72°38'	61	19th May, 1928	0530	1730	2330
Amausi	26°45'	80°53'	132	20th November, 1950	0530	1730	2330
Ambala	30°23'	76°46'	279	1st April, 1941	0530	1730	2330
Amritsar	31°38'	74°52'	243	21st June, 1957	0530*	1730*	
Anantapur	14°41'	77°37'	364	12th February, 1946	0530	1730	2330
Asansol	23°41'	86°59'	135	29th May, 1942	0530	1730	2330
Baghdogra	26°38'	88°19'	140	7th June, 1953	0530	1730	2330
Bairagarh	23°17'	77°21'	532	26th February, 1943	0530	1730	2330
Bajpe	12°55'	74°53'	104	25 May, 1959	0530	1730	2330
Bamrauli	25°27'	81°44'	103	28th February, 1930	0530*	1130	1730* 2330
Bangalore	12°58'	77°35'	936	19th May, 1915	0530	1730	2330
Barcilly	28°22'	79°24'	180	12th January, 1943	0530	1730	
Begumpet	17°27'	78°28'	543	1st September, 1929	0530	1730	2330
Bhagalpur	25°14'	86°57'	61	19th May, 1950	0530	1730	
Bhubaneshwar	20°15'	85°50'	54	5th December, 1942	0530	1730	2330
Bhuj	23°15'	69°48'	90	14th September, 1937	0530	1730	2330
Bikaner	28°00'	73°10'	229	18th October, 1946	0530	1730	2330
Chikalthana	19°51'	75°24'	583	7th October, 1951	0530	1730	2330
Cochin†	09°56'	76°14'	13	16th March, 1942	0530	1730	2330
Darjeeling	27°03'	88°16'	2115	21st May, 1956	0530	1730	
Dehra Dun	30°19'	78°05'	692	1st October, 1958	0530	1730	
Dum Dum	22°39'	88°27'	13	14th May, 1921	0530*	1130	1730* 2330
Gadag	15°25'	75°38'	650	3rd May, 1943	0530	1730	2330
Gannavaram	16°32'	80°48'	34	8th April, 1942	0530	1730	2330
Gauhati	26°05'	91°43'	51	12th March, 1955	0530*	1130	1730* 2330
Gaya	24°45'	84°57'	119	19th March, 1937	0530	1730	2330
Gopalpur	19°16'	84°53'	24	15th February, 1946	0530	1730	
Gorakhpur	26°45'	83°22'	83	5th January, 1943	0530	1730	2330
Gwalior	26°14'	78°15'	208	7th May, 1938	0530	1730	2330
Imphal	24°51'	93°58'	805	8th March, 1952	0530	1730	2330
Jabalpur	23°10'	79°57'	402	30th July, 1928	0530	1730	2330
Jagdapur	19°05'	82°02'	562	25th March, 1948	0530	1730	2330
Jaipur	26°49'	75°48'	404	6th June, 1953	0530	1730	2330
Jamshedpur	22°49'	86°11'	147	23rd July, 1942	0530	1730	
Jharsuguda	21°55'	84°05'	240	1st May, 1944	0530	1730	2330
Jodhpur	26°18'	73°01'	229	15th October, 1934	0530*	1130	1730* 2330
Madras	13°00'	80°11'	29	8th April, 1926	0530*	1130	1730* 2330
Minicoy	08°18'	73°00'	16	14th April, 1941	0530	1730	2330
Mohanbari	27°29'	95°01'	112	1st June, 1948	0530*	1130	1730* 2330
Nagpur	21°06'	79°03'	316	23rd April, 1943	0530*	1130	1730* 2330
Nanpara	27°50'	81°30'	142	23rd April, 1957	0530	1730	
New Delhi	28°35'	77°12'	227	20th October, 1936	0530*	1130	1730* 2330
Poona	18°32'	73°51'	593	5th January, 1925	0530	1730	2330
Port Blair	11°40'	92°43'	93	29th October, 1945	0530*	1130	1730* 2330
Raipur	21°14'	81°39'	308	15th July, 1944	0530	1730	2330
Raxaul	26°59'	84°51'	83	28th October 1957	0530	1730	
Santa Cruz	19°07'	72°51'	27	14th May, 1933	0530*	1130	1730* 2330
Tezpur	26°37'	92°47'	79	12th August, 1932	0530	1730	2330
Tiruchirapalli	10°46'	78°43'	96	22nd June, 1936	0530	1730	2330
Trivandrum	08°29'	76°57'	73	8th December, 1928	0530*	1130	1730* 2330
Udaipur	24°35'	73°42'	587	24th June, 1947	0530	1730	2330
Vengurla	15°52'	73°38'	8	22nd November, 1941	0530	1730	2330
Veraval	20°54'	70°22'	17	13th October, 1941	0530*	1130	1730* 2330
Visakhapatnam	17°43'	83°14'	10	24th September, 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.1	1.7	120	30	2.0	1.2	147	30	2.0	1.6	144	30	2.5	1.6	259	30	3.5	2.2	250	30	2.2	1.7	236				
0.15 a. g. . .	25	5.8	4.5	131	28	4.8	3.2	155	27	6.1	5.5	160	25	5.8	3.9	257	27	4.8	3.5	241	27	5.4	3.5	254				
0.3 a.m.s.l. .	25	6.6	4.6	156	28	5.8	4.5	165	27	6.9	5.9	174	25	6.7	4.8	259	27	5.1	3.7	243	26	6.1	4.2	254				
0.6 „ . . .	25	6.5	4.9	159	28	6.3	5.1	168	27	6.7	5.8	176	23	7.5	6.0	273	27	5.7	3.9	249	25	6.8	5.0	257				
0.9 „ . . .	23	6.0	4.3	160	27	6.6	5.6	167	27	6.0	4.7	176	17	6.5	5.1	276	26	6.2	4.9	256	23	6.3	4.6	271				
1.5 „ . . .	21	4.9	3.5	138	26	6.0	4.9	160	24	5.2	4.3	159	14	5.1	3.4	237	23	5.8	4.7	255	17	5.2	2.6	299				
2.1 „ . . .	20	4.8	3.3	133	22	5.9	4.7	145	21	5.5	4.7	145	13	4.8	3.0	228	19	5.0	3.2	270	12	3.2	1.3	059				
3.0 „ . . .	14	5.6	4.6	129	19	6.7	4.6	138	17	4.5	3.8	140	8	3.6	0.5	268	14	3.8	1.3	265	11	4.2	2.8	082				
3.6 „ . . .	10	5.5	4.4	125	19	6.8	4.8	145	13	5.3	4.3	127	1	1.0	1.0	005	13	5.8	0.5	316								
4.5 „ . . .	8	4.5	3.8	139	15	4.8	2.7	110	6	4.8	4.4	093					11	4.6	0.8	025								
5.4 „ . . .	8	5.1	2.6	137	9	5.0	3.0	108	5	3.9	3.0	086					10	5.7	3.0	017								
6.0 „ . . .	8	3.9	1.7	114	3	7.1	6.7	091	5	3.2	2.8	098					9	5.0	2.9	009								
7.2 „ . . .	6	4.1	3.5	075	2	4.1	4.1	080	3	4.1	1.9	080					3	3.4	1.6	314								
9.0 „ . . .	5	6.3	3.3	255					1	2.6	2.6	105																

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.4	0.5	069	30	2.2	0.6	069	30	1.4	0.5	067	30	1.5	0.8	111	29	1.4	0.1	073	30	1.3	0.7	122				
0.15 a. g. . .	29	6.0	1.9	071	29	4.6	1.4	060	30	6.5	1.8	088	27	4.6	2.5	125	29	3.8	0.2	311	30	5.4	1.0	102				
0.3 a.m.s.l. .	29	6.3	2.0	076	29	4.7	1.4	074	30	6.6	2.1	086	27	2.3	1.3	104	29	2.2	0.1	309	30	2.4	0.5	106				
0.6 „ . . .	27	7.5	2.3	088	29	5.6	1.5	075	29	7.1	2.3	070	27	4.9	2.4	150	29	4.0	0.3	342	30	5.3	0.9	128				
0.9 „ . . .	27	5.7	3.0	081	29	5.9	1.4	084	29	7.1	2.5	061	26	5.3	2.2	176	29	3.9	0.4	296	30	5.2	0.3	192				
1.5 „ . . .	22	6.7	2.8	077	27	6.6	1.4	109	28	4.6	2.2	112	22	4.7	0.9	273	29	4.9	1.5	292	30	5.6	1.6	266				
2.1 „ . . .	17	5.7	3.1	090	23	6.5	3.3	093	22	5.8	3.9	098	20	4.7	1.1	321	24	4.9	1.9	307	26	5.0	1.3	276				
3.0 „ . . .	13	5.0	3.0	099	17	5.3	2.7	084	11	4.5	2.6	104	17	3.4	0.5	051	23	4.3	1.7	308	24	3.9	0.8	285				
3.6 „ . . .	7	4.3	2.5	105	15	5.5	1.8	090	5	4.6	4.1	132	10	3.2	1.6	134	20	4.0	1.1	345	19	3.7	0.3	177				
4.5 „ . . .	6	6.5	4.6	110	14	5.9	3.7	070					4	5.7	4.3	133	17	4.2	1.6	333	16	3.0	0.5	082				
5.4 „ . . .	5	7.3	5.5	121	11	6.5	5.6	096					1	4.1	4.1	170	14	5.0	0.9	289	11	4.0	1.0	359				
6.0 „ . . .	3	8.1	8.0	123	10	6.0	5.0	096									12	5.5	0.4	136	11	4.4	1.5	047				
7.2 „ . . .	1	2.6	2.6	050	4	3.4	3.1	091									9	5.7	0.2	129	3	4.1	3.2	223				
9.0 „ . . .					1	0.5	0.5	080									5	4.1	1.6	333	1	4.1	4.1	120				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10,—Asvina 8, 1881 Saka)

Station	AMRITSAR								ANANTAPUR												ASANSOL							
	0530*				1730*				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.7	0.8	143	30	2.8	0.2	288	30	3.3	3.0	261	30	4.9	4.6	276	30	4.6	3.5	253	30	1.2	0.9	095				
0.15 a.g. . .	29	1.7	0.8	130	30	0.9	0.2	288	30	6.7	5.9	260	30	8.3	7.7	271	29	7.8	6.2	250	26	5.0	2.1	100				
0.3 a.m.s.l. .	29	1.7	0.8	130	30	0.9	0.2	288													26	5.3	2.0	105				
0.6 " . . .	29	1.9	1.8	168	30	2.7	0.1	065	30	7.4	6.5	261	30	8.1	7.5	275	29	8.3	6.6	252	26	6.5	2.6	099				
0.9 " . . .	29	3.6	1.4	210	30	2.5	0.5	099	30	9.9	8.9	271	30	7.8	7.1	277	29	8.8	7.3	262	22	5.7	1.6	091				
1.5 " . . .	29	3.8	1.4	250	30	2.8	1.1	276	29	9.9	8.5	280	29	7.9	6.8	277	29	8.6	7.1	277	19	4.9	1.4	062				
2.1 " . . .	29	3.5	1.1	294	30	3.1	1.6	298	24	7.6	5.7	285	27	9.3	7.8	278	26	7.7	6.2	289	16	5.1	0.9	037				
3.0 " . . .	29	3.8	1.5	005	30	3.3	1.2	322	16	6.7	4.1	288	20	6.6	4.7	284	22	7.3	5.7	298	10	3.9	0.4	289				
3.6 " . . .	29	3.6	1.1	034	30	3.7	0.9	310	13	5.7	3.0	280	15	4.0	1.9	284	17	5.7	4.2	286	9	4.4	2.0	339				
4.5 " . . .	29	4.1	0.8	053	30	4.4	0.7	286	12	5.3	1.9	282	11	4.1	1.2	277	5	5.9	0.3	287	7	4.8	1.0	331				
5.4 " . . .	29	5.1	0.9	155	30	4.3	0.9	272	11	5.9	1.3	237	9	5.3	1.1	227	1	8.7	8.7	080	4	3.6	9.9	074				
6.0 " . . .	28	4.9	1.1	172	30	5.1	1.9	292	10	5.9	1.5	122	8	5.3	0.9	129					3	2.7	1.7	065				
7.2 " . . .	28	5.9	1.6	216	30	5.4	5.0	318	9	6.3	4.7	091	7	5.2	1.9	094					2	1.3	1.1	124				
9.0 " . . .	28	4.9	2.9	287	24	6.8	3.4	304	2	10.0	9.8	085	5	8.6	4.4	074					1	5.1	5.1	345				
Station	ASANSOL								BAGHDAOGR												BAIRAGARH							
Time in I. S. T.	1730				2330				0530				1730				2330				0530							
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.5	1.3	109	30	1.4	0.8	111	30	2.1	1.7	065	30	2.7	1.7	089	30	2.7	2.1	056	30	2.6	1.4	285				
0.15 a.g. . .	25	4.7	2.5	104	24	4.6	3.1	136	21	4.3	3.8	077	28	4.2	2.6	091	21	4.7	3.7	066	26	6.3	2.5	295				
0.3 a.m.s.l. .	24	4.6	2.4	105	24	4.8	3.1	146	21	4.3	4.0	080	28	4.3	2.9	092	21	4.7	3.5	072								
0.6 " . . .	24	6.1	2.8	191	23	5.7	2.9	155	20	4.5	4.0	087	28	4.8	3.7	098	21	4.1	3.5	085	26	5.6	2.1	292				
0.9 " . . .	24	6.3	2.6	097	21	5.3	1.6	158	18	5.2	4.7	090	27	5.1	3.9	096	20	4.2	3.9	094	25	6.8	3.1	309				
1.5 " . . .	24	6.3	2.4	113	19	5.5	0.7	135	18	6.4	5.8	093	23	5.6	4.2	104	13	6.7	5.8	100	21	5.9	3.0	323				
2.1 " . . .	20	6.5	2.2	098	16	5.6	1.2	065	18	6.9	5.9	103	16	5.7	3.3	104	10	4.9	3.5	102	19	5.5	2.5	347				
3.0 " . . .	16	6.1	1.1	123	11	4.8	1.7	100	13	4.6	3.5	101	9	5.8	1.9	105	4	2.9	1.4	107	15	5.0	2.5	308				
3.6 " . . .	15	6.2	1.7	099	7	5.2	4.3	098	9	5.0	3.4	110	8	6.8	0.7	072	3	3.2	2.4	094	7	4.6	2.8	329				
4.5 " . . .	13	5.3	2.8	085	6	4.1	3.7	092	7	5.5	3.3	104	3	8.4	1.5	084					3	2.7	2.0	340				
5.4 " . . .	10	7.5	5.6	093	6	3.7	3.0	123	6	3.8	2.0	098	1	9.3	9.3	085												
6.0 " . . .	7	4.6	3.3	073	3	4.2	3.5	113	4	3.3	2.4	116	1	11.3	11.3	055												
7.2 " . . .	4	3.8	2.5	016	1	8.2	8.2	085	4	4.2	3.4	080	1	3.6	3.6	230												
9.0 " . . .	2	1.8	1.5	331					2	4.6	4.6	097																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	BAIRHGARH								BAJPE												BAMRAULI							
	1730				2330				0530				1730				2330				0530*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.4	1.5	293	30	2.6	1.2	307	30	1.3	0.3	045	30	3.7	3.3	287	30	1.5	0.5	281	30	1.8	0.7	072				
0.15 a.g.	30	5.3	2.8	306	30	6.5	2.6	308	27	4.6	2.1	300	28	5.7	5.2	285	27	5.0	3.3	300	28	6.3	1.0	047				
0.3 a.m.s.l.									27	5.5	2.9	292	28	6.1	5.6	284	27	5.3	3.8	298	28	6.3	1.0	047				
0.6 "	30	5.9	2.5	300	30	5.9	2.1	302	27	7.0	4.9	294	28	7.3	6.5	291	27	6.8	5.8	300	28	6.4	1.6	082				
0.9 "	30	6.2	3.5	315	30	7.4	3.1	321	25	7.6	6.3	297	26	7.2	6.7	295	23	7.4	5.5	307	28	6.3	2.3	081				
1.5 "	27	6.0	3.2	335	27	6.5	2.2	323	16	6.6	5.7	288	15	5.2	3.8	290	16	6.1	5.4	287	28	7.3	4.3	075				
2.1 "	24	6.3	3.1	354	24	5.4	1.9	326	11	5.0	2.8	274	9	3.4	1.1	102	12	6.1	3.4	270	28	7.3	4.6	078				
3.0 "	18	5.6	2.6	003	18	5.8	3.2	352	8	4.6	0.8	120	8	2.9	1.2	091	8	4.4	1.0	086	27	6.7	4.3	086				
3.6 "	16	4.7	2.4	010	7	3.6	2.7	020	5	4.3	2.4	103	7	4.0	2.5	104	7	4.1	2.6	095	27	7.0	4.9	080				
4.5 "	11	5.5	1.2	040	3	3.2	1.6	032	2	4.4	4.4	120	4	3.9	2.6	104	3	6.2	3.5	175	26	7.6	5.3	082				
5.4 "	8	5.1	1.6	019									2	6.2	5.3	107	1	2.6	2.6	075	26	8.0	5.4	089				
6.0 "	8	5.3	2.4	351									2	7.2	7.2	109	1	1.5	1.5	100	26	8.2	6.2	087				
7.2 "	4	7.7	4.8	012									1	12.9	12.9	110					26	6.7	5.2	082				
9.0 "													1	10.3	10.3	110					24	6.7	4.1	089				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.8	0.9	058	30	2.6	1.2	063	30	2.1	0.5	097	30	3.7	3.7	269	30	3.8	3.1	267	30	3.9	3.2	260				
0.15 a.g.	30	5.3	2.4	055	29	5.8	1.5	055	30	7.6	2.0	086	8	4.6	3.9	277	29	6.4	5.2	267	20	6.8	5.7	255				
0.3 a.m.s.l.	30	5.2	2.3	059	29	5.8	1.5	055	30	8.1	2.7	089																
0.6 "	29	5.4	2.4	072	28	5.9	2.4	060	30	9.3	3.4	093																
0.9 "	24	5.9	2.4	084	28	6.7	3.2	067	29	8.7	4.1	086																
1.5 "	18	6.7	2.1	093	28	7.2	3.3	074	27	7.9	4.0	082	7	7.0	6.0	291	28	6.9	5.9	269	19	9.7	8.8	274				
2.1 "	10	5.5	2.3	089	27	7.5	4.2	083	21	7.1	4.0	101	7	5.6	4.2	293	26	7.0	5.2	275	16	8.4	7.1	282				
3.3 "	6	5.1	4.1	083	26	6.9	4.6	085	15	5.6	4.3	097	6	5.8	4.5	288	19	5.2	3.1	284	14	6.0	4.4	287				
3.6 "	6	5.8	5.7	096	26	7.0	5.7	085	1	3.6	3.6	145	4	5.3	2.2	253	18	4.2	1.6	269	10	4.2	3.8	262				
4.5 "	4	8.5	7.1	097	26	7.6	5.8	074					3	4.8	2.8	248	12	4.3	1.4	267	7	4.8	3.6	265				
5.4 "	3	7.9	7.8	094	26	8.1	6.6	072					2	4.1	3.7	258	6	4.4	1.2	260	5	4.1	3.8	262				
6.0 "	2	8.0	8.0	105	25	7.4	5.3	070									5	4.8	2.5	059	3	5.1	3.3	268				
7.2 "					24	6.6	4.2	053									5	6.8	5.0	088	1	3.6	3.6	050				
9.0 "					22	5.3	2.5	037									1	14.4	14.4	100	1	11.8	11.8	120				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 3, 1881 Saka)

Station	BAREILLY								BEGUMPET												BHAGALPUR											
	0530				1730				0530				1730				2330				0530											
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	1.6	0.7	065	30	1.5	0.1	064	30	3.5	3.3	278	30	4.9	3.5	285	30	3.1	2.3	275	30	3.0	2.3	093								
0.15 a.g. . .	29	5.4	1.6	082	30	3.6	0.5	032	30	6.0	5.6	275	30	6.7	4.7	233	26	6.7	4.4	231	27	4.3	2.6	090								
0.3 a.m.s.l. .	29	5.0	1.6	072	30	3.6	0.6	036													27	6.1	3.3	093								
0.6 „ . .	27	6.8	0.9	126	30	4.5	0.5	094	30	4.8	4.0	274	30	5.9	4.0	289	26	4.4	2.8	278	26	6.8	3.7	109								
0.9 „ . .	27	6.7	0.8	095	30	6.7	0.3	131	29	9.0	7.7	264	30	7.6	5.7	285	26	8.1	5.7	226	25	7.3	4.2	105								
1.5 „ . .	27	5.4	1.1	074	29	6.0	1.3	220	27	9.3	7.8	293	29	3.5	6.9	237	25	3.6	6.6	291	23	7.3	4.1	093								
2.1 „ . .	21	4.5	2.0	113	28	5.5	1.1	248	23	7.9	5.9	295	26	9.3	3.1	290	23	7.3	6.0	299	20	6.6	4.7	099								
3.0 „ . .	15	4.0	1.6	097	26	4.5	0.8	031	17	4.9	2.6	292	22	8.7	7.9	291	15	5.1	3.0	326	16	7.6	6.7	096								
3.6 „ . .	12	3.2	1.7	069	25	4.4	1.4	037	10	4.8	3.3	299	13	5.5	4.6	297	10	3.7	2.6	340	13	6.6	5.3	103								
4.5 „ . .	8	4.6	2.4	047	21	4.3	1.5	059	6	4.5	3.4	280	9	4.3	2.9	270	2	3.3	3.3	340	10	6.1	4.9	099								
5.4 „ . .	4	3.2	2.4	074	20	4.9	1.9	091	4	2.7	0.7	093	7	5.1	3.1	300					9	7.0	6.1	085								
6.0 „ . .	4	5.7	5.0	088	18	5.0	1.6	047	4	4.4	3.8	077	6	3.7	3.0	270					7	5.6	4.7	094								
7.2 „ . .	3	5.1	4.2	113	16	5.3	1.4	348	1	5.7	5.7	070	4	2.4	0.8	066					5	5.0	4.0	101								
9.0 „ . .	2	8.2	4.7	112	15	5.8	1.6	358					1	6.7	6.7	095					1	5.1	5.1	110								

Station	BHAGALPUR				BHUBANESHWAR								BHUJ															
	1730				0530				1730				2330				0530				1730							
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	2.8	2.2	099	30	2.7	1.2	249	30	3.5	1.9	215	30	3.2	2.3	213	30	2.9	2.7	236	30	5.0	4.5	235				
0.15 a.g. . .	29	5.0	3.5	102	27	6.2	4.4	241	24	5.3	3.2	199	26	6.3	3.9	223	27	7.2	6.5	243	28	7.2	6.4	233				
0.3 a.m.s.l. .	29	6.3	4.4	101	27	6.6	5.2	241	24	5.5	2.9	210	26	5.8	4.1	221	27	7.6	7.0	245	28	7.3	6.6	238				
0.6 „ . .	29	7.8	4.9	100	25	6.0	4.5	256	23	5.2	2.3	236	24	7.2	3.9	228	25	7.9	7.3	251	28	7.9	7.3	247				
0.9 „ . .	28	8.9	5.5	103	25	6.4	4.2	273	21	5.3	2.0	280	22	6.9	2.6	240	23	6.8	6.3	247	23	6.5	5.9	255				
1.5 „ . .	24	8.3	4.6	103	22	6.0	3.0	293	18	5.5	2.1	223	19	5.9	1.3	274	20	5.9	4.8	230	22	4.7	3.8	252				
2.1 „ . .	22	7.8	4.3	107	18	5.2	1.5	329	13	6.1	2.5	301	15	5.4	1.9	001	15	4.9	2.7	223	15	4.6	2.3	237				
3.0 „ . .	18	7.6	5.3	099	16	4.5	1.1	335	8	4.8	2.1	025	12	3.7	1.4	347	14	4.8	2.2	173	9	4.0	1.3	053				
3.6 „ . .	16	8.2	7.3	097	12	4.2	0.7	243	7	3.5	0.6	006	6	2.3	1.5	284	6	6.0	4.0	085	6	3.3	0.8	137				
4.5 „ . .	11	7.1	6.6	081	9	4.6	0.9	260	3	2.9	1.1	039	4	3.4	2.6	278	4	8.5	7.6	065	6	5.3	0.3	240				
5.4 „ . .	7	9.1	8.4	088	8	2.9	0.6	021	2	2.8	2.3	289	1	3.6	3.6	350					6	4.5	2.1	079				
6.0 „ . .	6	6.7	5.9	091	5	2.2	0.8	080													5	5.6	5.0	054				
7.2 „ . .	2	4.1	4.1	093	2	2.1	2.1	051													3	3.8	3.7	020				
9.0 „ . .	1	5.1	5.1	285	1	3.6	3.6	010													1	2.6	2.6	265				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10— Asvina 8, 1881 Saka)

Station	BHUIJ				BIKANER												CHIKALTHANA							
	2330				0530				1730				2330				0530				1730			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.1	2.8	242	30	1.4	1.2	227	30	1.8	0.8	158	30	1.4	1.0	206	30	3.1	2.8	269	30	4.5	3.7	282
0.15 a.g.	28	7.0	6.5	243	30	6.1	4.4	241	29	4.5	1.7	190	30	6.3	3.8	203	27	6.9	5.3	278	29	8.2	6.5	287
0.3 a.m.s.l.	28	7.4	6.8	245	30	4.5	3.0	235	29	3.8	1.7	192	30	4.9	3.0	194								
0.6 "	25	7.0	6.3	253	30	6.0	4.3	245	29	4.2	1.6	199	30	6.4	4.1	214								
0.9 "	24	5.7	4.9	249	30	4.9	2.5	224	29	4.1	1.1	202	30	5.7	3.0	217	27	8.3	6.4	285	29	8.2	6.7	293
1.5 "	20	4.7	2.8	227	28	3.7	1.3	116	28	4.4	0.9	209	30	3.8	0.6	208	17	6.8	4.1	293	26	8.7	6.8	297
2.1 "	16	4.8	1.0	242	27	4.2	1.8	076	25	4.0	0.6	022	28	3.8	1.0	074	13	5.8	3.9	275	22	8.5	6.3	296
3.0 "	12	5.5	3.4	043	25	4.3	2.6	058	23	4.5	1.2	030	22	4.9	3.4	056	13	5.1	3.7	304	17	6.4	4.2	294
3.6 "	6	6.8	4.3	070	15	4.5	2.7	034	21	4.4	2.7	030	17	4.7	3.2	049	9	4.0	2.0	312	8	5.9	5.0	286
4.5 "	2	7.5	7.5	077	7	4.0	2.7	047	18	4.4	2.2	035	9	3.2	2.7	069					3	5.1	5.1	291
5.4 "					1	4.6	4.6	075	16	4.7	1.9	044	6	3.0	2.4	105								
6.0 "									11	4.0	2.2	044	3	2.2	1.4	121								
7.2 "									8	3.5	1.5	050												
9.0 "									5	4.2	1.0	067												

Station	CHIKALTHANA				COCHIN												DARJEELING							
	2330				0530				1730				2330				0530				1730			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.8	3.3	281	30	0.7	0.2	017	30	4.0	3.3	296	30	0.9	0.5	340	30	0.6	0.5	104	30	0.2	0.1	132
0.15 a.g.	27	7.4	6.3	289	24	2.3	0.9	352	22	5.1	4.9	301	14	2.5	2.0	304	4	2.4	1.1	151	2	0.8	0.8	178
0.3 a.m.s.l.					24	3.8	3.1	314	22	5.9	4.9	296	14	4.0	3.4	302								
0.6 "					24	6.1	5.6	307	22	7.4	7.0	300	14	5.6	5.3	302								
0.9 "	27	9.1	7.3	294	24	6.4	6.0	303	22	8.2	7.9	301	14	6.9	6.7	303								
1.5 "	26	10.0	7.6	298	23	7.0	6.1	291	21	7.9	7.5	301	14	7.2	6.8	298								
2.1 "	23	8.0	5.6	288	22	6.7	5.5	286	18	8.1	7.5	297	11	6.9	5.8	288								
3.0 "	14	5.9	3.1	280	14	5.6	3.0	282	12	6.4	4.8	290	7	5.7	2.4	282	5	2.8	2.4	094	2	3.9	3.8	051
3.6 "	11	5.9	2.7	309	6	3.6	1.1	221	7	5.7	4.8	275	1	3.1	3.1	290	4	2.9	2.2	103	2	9.8	9.7	091
4.5 "	4	5.7	4.9	007	3	1.0	0.4	149	1	2.1	2.1	290	1	2.6	2.6	295	4	5.8	4.4	064	1	6.7	6.7	115
5.4 "	1	5.7	5.7	260	2	3.6	3.4	103	1	0.5	0.5	275					3	8.7	8.6	062				
6.0 "	1	1.0	1.0	115													1	3.6	3.6	140				
7.2 "																	1	3.1	3.1	110				
9.0 "																	1	3.6	3.6	095				

TABLE IV.—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	DEHRA DUN								DUM DUM															
	0530				1730				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	0.4	0.3	015	30	0.9	0.3	265	30	1.6	0.8	104	30	2.8	1.5	125	29	1.7	1.1	150	30	2.7	1.2	111
0.15 a.g. .	21	2.0	0.8	087	24	2.2	1.0	278	30	4.8	2.2	140	26	4.4	2.3	151	29	4.1	2.3	155	25	5.7	3.3	164
0.3 a.m.s.l. .									30	4.8	2.3	144	26	4.3	2.1	156	29	4.5	2.9	155	25	6.2	4.1	166
0.6 „ .									30	5.2	2.7	147	24	4.8	2.0	156	29	4.9	3.1	148	25	6.3	4.2	014
0.9 „ .	20	1.5	0.6	148	24	2.3	1.0	270	30	5.8	2.9	160	22	4.9	1.8	153	29	5.7	3.6	150	21	6.1	3.3	167
1.5 „ .	20	1.9	0.5	175	21	2.2	1.5	279	30	5.5	2.8	150	12	4.8	1.3	139	29	5.9	3.3	155	19	5.7	2.4	183
2.1 „ .	17	3.0	1.1	150	15	2.8	1.7	302	30	5.3	2.7	145	07	4.3	2.3	058	29	6.1	2.7	154	10	4.3	0.8	071
3.0 „ .	9	3.2	1.8	265	9	3.3	1.0	302	30	5.8	3.2	136	4	6.2	3.5	046	28	6.4	3.3	138	9	5.5	1.6	114
3.6 „ .	6	8.1	0.5	135	8	1.6	0.7	288	30	5.8	2.9	141	2	4.6	4.6	030	28	6.2	3.3	135	3	5.3	4.3	105
4.5 „ .	3	8.1	0.7	073	5	3.4	1.1	044	30	6.2	3.4	135					28	6.4	1.7	192				
5.4 „ .	2	2.1	1.3	175	4	4.1	1.2	275	29	6.1	3.3	124					28	5.7	2.2	133				
6.0 „ .	2	4.1	3.8	180	3	3.2	3.1	261	29	8.4	2.8	133					28	5.8	2.7	122				
7.2 „ .	2	8.2	5.4	143	1	4.1	4.1	280	29	5.7	2.9	134					28	5.4	1.3	103				
9.0 „ .	2	6.4	5.6	219					29	5.2	3.2	108					22	5.3	2.6	117				

Station	GADAG												GANNAVARAM											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	30	4.2	3.6	263	30	5.1	4.5	264	30	4.6	4.2	252	30	2.4	2.2	257	30	3.2	1.8	285	30	2.4	1.6	220
0.15 a.g. .	30	8.6	7.3	263	30	9.3	8.5	258	28	9.3	9.0	258	27	6.0	5.5	254	30	5.3	3.1	284	27	5.3	3.7	216
0.3 a.m.s.l. .													27	7.4	6.6	258	30	5.8	4.0	283	27	5.7	3.6	231
0.6 „ .													27	8.2	7.2	265	30	6.4	5.0	283	27	6.5	4.1	260
0.9 „ .	30	9.5	7.8	272	30	9.2	8.4	263	28	10.4	9.9	266	27	8.6	7.3	257	30	7.3	6.1	285	27	7.5	5.4	276
1.5 „ .	23	10.1	7.7	279	22	8.2	6.6	274	22	9.9	8.2	281	27	7.9	6.5	290	30	9.1	7.8	292	27	9.2	7.1	288
2.1 „ .	9	5.9	1.6	332	10	4.5	2.1	323	16	10.2	5.3	287	24	7.7	6.6	284	28	9.5	7.9	290	26	8.4	6.6	295
3.0 „ .	3	4.0	3.2	085	5	4.9	3.4	030	11	5.9	2.4	045	22	7.5	6.5	280	24	7.8	6.7	288	21	6.0	4.8	297
3.6 „ .	3	2.1	1.9	035	1	8.7	8.7	015	9	1.3	0.8	297	17	5.7	4.4	271	22	7.3	6.5	284	15	4.8	3.1	301
4.5 „ .									4	4.1	0.8	179	10	4.6	1.6	250	19	7.2	5.9	279	14	4.0	2.7	294
5.4 „ .									2	6.7	0.9	206	5	4.4	2.0	094	13	4.1	0.8	266	7	4.5	0.3	037
6.0 „ .													4	4.6	1.5	101	11	3.5	1.4	091	6	4.4	2.6	085
7.2 „ .													4	3.3	2.1	115	10	4.8	3.2	069				
9.0 „ .													2	8.2	8.2	117	6	5.9	5.5	098				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	GAUHATI																GAYA											
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.3	1.0	073	30	2.0	1.8	042	30	1.7	0.6	097	30	1.1	0.3	060	30	2.6	1.4	100	30	3.7	1.6	084				
0.15 a. g. . .	30	2.9	2.0	079	29	3.9	3.3	039	30	3.5	1.4	080	29	3.2	0.9	091	26	5.1	1.1	091	29	5.5	2.1	085				
0.3 a.m.s.l. . .	30	3.3	2.1	077	29	4.0	3.4	053	30	3.5	1.2	081	29	3.5	1.2	082	26	5.2	1.2	096	29	5.7	2.4	086				
0.6 " . . .	30	4.2	2.9	088	29	4.0	2.9	060	30	4.3	1.3	094	28	4.4	2.0	080	26	6.6	1.3	100	29	6.4	3.2	086				
0.9 " . . .	27	5.0	3.1	090	25	4.3	3.2	090	30	4.8	1.8	110	26	4.8	2.0	110	24	6.2	0.5	090	28	7.2	3.1	093				
1.5 " . . .	27	5.4	2.4	108	21	5.2	4.2	111	30	5.2	1.9	145	24	4.6	1.8	160	23	5.2	1.9	106	23	7.6	2.2	115				
2.1 " . . .	27	5.3	1.9	126	18	5.1	3.9	115	30	5.1	1.9	150	20	4.9	2.3	153	19	4.8	1.4	059	19	6.4	1.6	130				
3.0 " . . .	26	5.5	2.1	127	12	5.7	2.5	083	27	5.2	1.9	149	10	3.3	2.4	189	15	5.2	2.7	103	17	6.2	2.4	099				
3.6 " . . .	25	4.9	1.4	129	10	5.7	2.5	081	26	5.5	2.0	140	4	3.7	1.4	130	10	4.9	3.8	101	13	5.6	2.2	077				
4.5 " . . .	25	4.7	0.9	124	6	4.0	1.6	335	26	5.6	1.7	109	1	3.1	3.1	255	5	3.7	3.2	091	9	7.2	3.3	063				
5.4 " . . .	25	5.3	1.6	080	4	6.0	5.0	066	26	5.1	0.9	088	1	3.6	3.6	230	5	6.1	5.3	110	8	5.9	2.9	051				
6.0 " . . .	25	5.1	1.5	085	4	7.4	5.7	059	26	5.3	1.0	067	1	3.1	3.1	240	4	8.7	7.6	083	6	5.9	4.7	056				
7.2 " . . .	25	4.9	0.9	041	2	3.9	2.9	028	26	5.7	1.3	047					2	4.4	3.1	090	4	6.5	3.5	010				
9.0 " . . .	22	5.5	2.6	267	1	8.2	8.2	265	23	6.6	3.4	238					2	7.7	2.5	045	2	6.9	5.8	321				

Station	GAYA				GOPALPUR								GORAKHPUR															
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	2.5	1.5	092	30	2.1	1.5	224	30	5.1	4.0	208	30	3.2	2.7	216	30	1.7	0.9	058	30	1.9	1.0	060				
0.15 a.g. . .	28	5.5	2.5	109	30	5.9	4.5	230	30	7.5	5.6	213	29	6.2	4.9	224	29	6.5	2.9	083	29	4.3	2.0	083				
0.3 a.m.s.l. . .	28	5.6	2.6	104	30	6.2	4.9	234	30	6.7	4.6	221	29	6.7	5.2	228	29	7.4	3.3	092	29	4.7	2.5	085				
0.6 " . . .	27	6.9	3.5	112	30	6.3	4.9	242	30	5.5	2.9	240	29	6.4	4.6	234	29	8.4	4.2	107	29	5.8	2.1	088				
0.9 " . . .	27	6.9	3.2	119	30	6.6	4.9	256	30	5.3	2.7	273	28	6.1	4.4	255	28	8.5	4.0	099	29	6.3	2.0	101				
1.5 " . . .	24	6.1	2.2	116	28	6.5	4.2	288	29	7.2	4.8	294	28	6.6	4.4	282	27	8.3	4.3	094	26	7.7	3.2	106				
2.1 " . . .	21	5.6	2.2	111	26	5.8	3.4	289	28	7.3	4.7	294	23	6.5	4.6	295	26	7.8	4.3	093	24	7.5	4.1	106				
3.0 " . . .	11	4.5	1.0	112	16	4.9	2.5	294	24	5.7	3.1	274	13	3.8	2.4	337	20	5.9	3.4	091	21	7.0	5.7	104				
3.6 " . . .	3	4.3	3.3	086	14	4.8	3.2	279	18	4.8	2.3	291	10	2.3	0.9	317	18	5.0	2.8	100	19	6.9	5.9	095				
4.5 " . . .	1	4.6	4.6	070	11	3.3	1.1	328	15	4.6	1.6	274	7	2.7	1.8	253	13	4.6	2.9	097	17	7.0	5.8	090				
5.4 " . . .					10	3.1	1.8	357	13	3.6	1.7	285	5	5.1	5.0	253	11	5.6	3.9	095	16	7.3	5.8	090				
6.0 " . . .					9	4.2	2.0	358	13	3.6	2.1	299	1	2.6	2.6	160	6	5.2	2.5	110	14	7.5	6.2	090				
7.2 " . . .					8	2.6	0.8	052	4	2.3	0.8	299					4	5.4	5.1	048	13	6.2	5.1	063				
9.0 " . . .					5	4.0	3.5	118									2	7.5	3.3	359	11	6.1	4.0	036				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

September 1959. (Bhadra 10—Asvina 8, 1881 Saka)

Station	GWALIOR												IMPHAL															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.2	0.1	267	30	2.1	0.1	285	30	1.1	0.6	233	30	0.4	0.1	189	30	1.3	0.9	219	30	0.6	0.1	003				
0.15 a. g. . .	30	5.5	0.3	031	30	4.7	0.3	056	30	5.7	0.8	138	25	1.3	0.5	084	26	3.5	2.0	220	24	1.6	0.7	085				
0.3 a.m.s.l. . .	30	4.3	0.3	343	30	3.9	0.3	036	30	4.3	0.8	154																
0.6 " . . .	29	6.7	0.5	082	30	5.5	0.3	048	30	6.6	0.5	101																
0.9 " . . .	27	6.5	1.6	057	30	5.8	0.7	036	30	6.3	0.5	089	25	1.2	0.7	120	26	3.3	2.0	217	24	1.7	0.8	059				
1.5 " . . .	27	6.1	3.0	063	29	5.8	1.3	044	29	5.5	0.5	070	22	5.0	1.4	090	26	3.2	1.3	197	24	3.0	0.6	131				
2.1 " . . .	23	5.3	3.1	089	24	5.0	1.9	046	28	4.2	1.8	081	16	5.1	2.9	113	21	4.3	2.1	142	18	5.7	2.6	157				
3.0 " . . .	20	5.8	3.0	079	23	5.4	3.0	071	25	4.9	3.4	086	7	4.8	2.9	124	12	4.0	0.9	177	13	5.3	2.5	158				
3.6 " . . .	15	5.6	3.4	062	20	6.5	3.8	069	18	5.3	2.7	094	6	3.9	2.9	120	8	4.3	2.4	279	9	2.8	1.4	211				
4.5 " . . .	12	4.5	2.8	091	20	6.9	4.0	066					2	4.1	4.1	154	2	0.8	0.1	315	5	3.1	0.1	271				
5.4 " . . .	8	4.5	1.7	059	17	5.5	2.2	045					2	3.3	3.0	132	1	4.1	4.1	035	2	3.3	2.2	054				
6.0 " . . .	7	5.1	1.4	025	17	5.3	2.0	033					1	2.6	2.6	065	1	6.7	6.7	355	2	6.7	6.3	033				
7.2 " . . .	6	6.2	3.4	045	15	6.5	2.6	022																				
9.0 " . . .	4	5.2	3.2	001	13	6.7	3.8	036																				

Station	JABALPUR												JAGDALPUR															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.4	0.3	313	30	2.2	0.6	322	30	1.5	0.1	223	30	1.2	1.0	226	30	1.6	1.2	243	30	0.7	0.6	227				
0.15 a. g. . .	30	4.8	1.6	330	29	5.1	1.0	327	28	5.1	0.8	040	20	4.9	3.1	255	26	5.0	3.5	268	24	4.4	2.7	244				
0.3 a.m.s.l. . .																												
0.6 " . . .	30	5.1	1.8	328	29	5.4	1.2	336	28	5.3	1.0	022	21	2.5	1.9	246	26	3.8	2.4	263	24	2.6	1.6	240				
0.9 " . . .	28	6.4	2.4	328	28	6.3	2.4	354	28	6.7	1.8	023	19	6.2	4.2	276	25	5.2	4.0	268	24	5.2	2.7	271				
1.5 " . . .	20	5.7	2.3	012	26	5.8	2.3	360	24	7.0	2.4	022	15	5.6	3.9	307	18	6.1	3.7	306	21	6.3	3.5	291				
2.1 " . . .	20	4.9	2.0	026	19	5.4	1.8	360	18	6.0	2.6	015	13	5.0	4.2	283	17	6.0	3.5	316	16	5.5	2.9	301				
3.0 " . . .	14	4.3	2.4	046	15	4.5	2.6	040	15	4.7	3.1	044	9	4.4	2.8	284	8	5.2	4.2	349	13	4.9	3.0	297				
3.6 " . . .	6	3.5	2.7	073	11	5.0	3.0	040	9	3.1	1.9	054	1	5.1	5.1	295	7	4.1	3.4	339	9	3.1	1.6	290				
4.5 " . . .	5	2.4	1.2	065	7	3.1	1.6	358	4	3.3	1.1	329	1	5.1	5.1	290	5	4.8	3.4	337	3	3.8	2.1	214				
5.4 " . . .	2	1.5	1.0	290	4	3.4	1.9	356	1	2.1	2.1	025	1	4.6	4.6	285	4	4.4	2.2	359	2	3.1	1.1	250				
6.0 " . . .	2	1.0	1.0	310	4	3.9	2.5	328									3	5.1	2.7	334								
7.2 " . . .	1	4.6	4.6	155	2	6.9	3.8	004									1	7.7	7.7	010								
9.0 " . . .	1	3.1	3.1	210													1	6.2	6.2	005								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR												JHARSUGUDA			
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface	30	1.4	0.7	352	30	1.9	0.3	345	30	0.8	0.4	304	30	1.4	0.4	075	30	2.1	1.2	070	30	1.6	0.1	041				
0.15 a.g.	29	4.9	1.0	322	28	3.9	0.1	216	30	4.3	1.0	241	29	3.2	0.8	106	23	3.2	1.2	115	21	4.4	0.2	313				
0.3 a.m.s.l.													29	3.3	0.8	119	23	3.3	1.3	120	21	3.8	0.1	062				
0.6 "	29	5.5	0.6	299	28	4.1	0.1	019	30	4.9	1.2	235	29	3.7	0.6	151	23	4.2	1.6	129	21	4.9	1.0	272				
0.9 "	27	6.1	1.0	258	28	4.6	0.3	311	29	6.1	1.3	251	28	4.1	0.2	193	23	4.3	1.5	137	17	5.6	0.7	010				
1.5 "	23	5.5	1.3	027	25	2.8	0.9	355	29	6.0	0.3	113	17	4.6	0.3	107	19	5.1	1.2	126	16	5.8	1.5	008				
2.1 "	22	5.3	2.1	065	18	4.8	1.6	036	20	5.8	1.7	097	14	4.3	0.9	070	17	5.6	1.5	120	14	5.5	1.2	045				
3.0 "	17	5.8	3.4	059	10	4.5	2.4	030	20	5.6	3.1	077	19	5.6	1.9	096	10	5.1	2.5	359	11	4.8	1.7	086				
3.6 "	13	6.3	3.1	075	8	4.1	0.9	024	14	5.5	2.7	055	8	5.7	2.2	094	8	4.9	2.8	023	6	5.4	1.7	082				
4.5 "	3	5.7	3.4	029	6	3.2	2.5	095	8	7.1	4.2	064	4	6.8	4.6	120	7	5.1	3.4	356								
5.4 "	1	0.5	0.5	205	4	4.1	3.7	078	3	5.1	5.1	068	4	4.5	0.8	160	4	2.7	1.1	010								
6.0 "									1	7.7	7.7	090	3	1.5	0.5	240	4	3.1	2.9	317								
7.2 "													3	1.9	0.7	118	1	3.6	3.6	340								
9.0 "													3	2.2	2.1	330												

Station	JHARSUGUDA								JODHPUR															
	1730				2330				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.8	0.3	222	30	2.0	0.4	283	30	1.7	1.1	230	30	2.8	1.4	214	30	2.7	1.7	215	30	2.1	1.4	225
0.15 a.g.	25	4.0	1.0	190	25	4.6	0.7	190	22	2.3	1.0	230	30	4.5	2.2	209	23	3.3	2.2	210	30	6.2	4.4	233
0.3 a.m.s.l.	25	3.6	0.9	203	25	3.6	0.3	196	30	3.3	2.3	240	30	4.2	1.9	211	29	3.5	2.1	235	30	4.9	3.7	238
0.6 "	25	4.5	0.9	200	25	6.0	1.3	208	30	4.9	3.0	259	30	4.7	2.2	206	29	4.2	1.6	240	29	6.4	4.2	232
0.9 "	24	5.1	0.3	106	24	6.4	1.0	288	30	6.0	3.5	235	29	4.7	1.9	193	29	4.8	2.4	225	29	5.8	3.2	212
1.5 "	20	6.3	0.8	357	20	5.4	0.8	290	30	5.7	2.6	125	15	5.0	1.6	096	29	5.4	1.1	200	29	5.9	1.7	175
2.1 "	18	6.1	0.1	354	17	4.1	0.8	040	30	5.3	0.8	116	9	3.7	2.2	097	29	5.2	0.6	120	24	4.8	1.8	109
3.0 "	11	4.8	1.1	222	16	4.5	1.1	085	29	5.1	2.8	030	6	4.1	3.4	092	29	5.2	2.2	060	17	4.6	0.8	053
3.6 "	10	4.4	1.5	158	12	3.5	1.6	057	28	5.6	3.3	060	6	4.0	3.6	100	28	5.1	2.4	055	3	3.2	2.9	057
4.5 "	6	3.4	1.0	186					28	5.8	4.4	050	6	2.7	2.2	098	27	5.1	2.8	057	1	6.2	6.2	129
5.4 "	2	3.3	3.0	286					25	6.0	4.2	067	6	2.3	0.6	180	27	5.5	2.8	065				
6.0 "	1	4.1	4.1	244					22	6.0	4.0	075	6	3.0	0.7	213	27	6.0	2.9	065				
7.2 "									22	5.6	4.0	075	3	3.6	1.6	213	25	6.6	3.8	070				
9.0 "									17	5.2	1.6	060	2	6.2	6.1	262	17	6.7	3.8	070				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10 —Asvina 8, 1881 Saka)

Station	MADRAS												MINICOY											
	0530*				1130				1730*				2330				0530				1730			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.4	2.0	230	30	3.9	2.9	271	30	4.1	2.8	140	30	3.3	2.7	194	30	4.2	3.9	287	30	4.4	4.0	291
0.15 a. g.	31	4.7	3.8	232	30	5.5	4.1	271	30	5.5	3.7	145	30	7.4	6.1	201	28	6.0	5.7	285	29	7.6	7.4	290
0.3 a.m.s.l.	31	5.9	4.7	242	30	5.6	4.5	268	30	6.0	3.5	158	30	7.9	6.3	207	28	6.3	6.0	291	29	8.0	7.7	291
0.6 „	31	6.6	5.9	262	30	5.6	4.7	270	30	5.3	2.0	196	30	7.8	5.9	218	28	7.5	7.2	292	29	8.6	8.2	296
0.9 „	31	7.7	6.3	271	30	6.1	5.1	274	30	5.0	2.8	269	30	7.2	5.1	232	28	8.3	7.8	295	28	9.7	9.3	295
1.5 „	31	6.9	5.5	287	30	7.5	6.6	283	30	6.6	5.5	283	29	6.7	5.1	268	26	7.6	7.3	293	28	9.0	8.6	293
2.1 „	31	6.3	4.6	293	28	8.2	6.7	284	30	7.7	6.7	285	27	6.4	5.1	290	25	6.7	6.4	290	26	8.4	8.0	289
3.0 „	31	6.1	4.7	286	26	7.4	6.3	280	30	7.1	6.2	280	23	5.3	3.6	292	16	5.1	4.6	292	20	7.5	7.0	285
3.6 „	31	6.1	4.1	283	21	7.3	5.5	283	30	6.9	5.1	278	8	4.3	2.2	004	5	4.4	4.0	275	20	7.3	6.7	288
4.5 „	31	6.5	3.3	272	18	6.4	4.9	279	30	6.4	4.7	281	5	4.4	2.8	069	2	5.4	5.2	273	15	4.8	3.9	290
5.4 „	31	6.4	2.4	255	15	5.7	2.9	259	30	5.9	3.0	281	2	5.7	5.6	073	1	2.6	2.6	230	12	4.0	1.7	290
6.0 „	31	6.2	1.5	231	13	5.6	1.3	228	30	5.8	1.9	274	1	9.8	9.8	100	1	2.1	2.1	035	12	4.0	1.6	300
7.2 „	31	5.9	3.1	110	9	5.6	3.7	086	30	5.9	1.0	124									8	4.9	3.5	069
9.0 „	28	10.4	8.4	093	7	10.6	10.2	092	24	8.9	7.3	114									5	11.4	11.4	097

Station	MINICOY				MOHANBARI								NAGPUR											
	2330				0530				1730				2330				0530*				1130			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	4.0	3.8	290	30	0.9	0.4	028	30	0.6	0.5	065	30	0.6	0.5	038	30	1.9	1.5	273	30	3.7	2.7	276
0.15 a. g.	27	5.9	5.7	291	22	3.9	2.3	058	26	2.8	1.3	065	24	3.7	2.3	050	29	6.9	5.6	299	28	5.2	4.4	281
0.3 a.m.s.l.	27	6.0	5.7	295	22	3.9	2.2	053	26	2.8	1.4	067	24	3.5	2.1	052								
0.6 „	27	7.3	6.9	300	22	3.4	2.0	043	26	2.9	1.0	067	24	3.4	1.7	058	29	7.3	5.9	303	28	5.0	4.1	283
0.9 „	27	7.8	7.3	300	19	3.0	2.4	056	26	3.4	0.6	089	23	2.9	1.5	067	29	7.7	6.1	307	26	5.5	4.1	295
1.5 „	26	6.8	6.4	290	16	2.8	2.0	068	26	2.8	1.2	211	21	2.4	0.7	128	28	6.5	4.8	311	18	4.8	3.3	327
2.1 „	23	6.5	6.1	294	14	2.6	1.5	089	24	3.5	2.5	211	20	2.3	0.8	182	28	6.5	4.4	311	14	5.0	3.7	326
3.0 „	19	6.3	5.9	278	13	2.8	1.3	097	18	4.1	2.3	194	17	2.8	0.9	193	28	5.9	3.9	312	7	5.1	3.3	326
3.6 „	10	4.5	4.1	273	11	2.6	0.8	151	6	4.8	3.0	099	12	3.0	2.2	180	28	5.5	3.1	339	6	5.3	4.4	350
4.5 „	5	2.4	1.3	271	9	4.9	1.0	144	3	4.8	4.0	117	10	4.5	1.1	174	28	5.6	3.0	359	3	3.1	1.7	227
5.4 „					7	5.2	1.2	001	2	4.4	1.6	228	9	4.2	0.9	031	26	5.7	3.1	009	3	2.9	1.2	302
6.0 „					7	4.9	2.0	358	2	5.9	2.0	355	6	5.5	1.3	337	23	5.9	3.7	039	3	2.4	0.4	170
7.2 „					4	6.3	3.6	321	1	4.6	4.6	215	1	7.7	7.7	285	23	5.8	4.7	046	2	1.8	1.5	031
9.0 „					2	7.7	7.6	268									17	6.9	5.7	033				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10 —Asavina 8, 1881 Saka)

Station	NAGPUR								NANPARA								NEW DELHI															
	1730*				2330				0530				1730				0530*				1130											
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	3.1	2.0	276	30	2.4	1.2	270	30	1.3	1.0	086	30	2.0	0.1	140	30	1.7	0.9	230	30	2.5	0.1	070								
0.15 a.g. . .	30	6.2	4.2	288	26	5.1	2.9	293	26	6.0	4.5	114	30	4.9	0.4	177	30	5.6	1.3	210	29	4.1	0.2	189								
0.3 a.m.s.l. .									26	6.2	4.5	114	30	4.9	0.4	191	30	5.5	1.4	203	29	4.0	0.2	102								
0.6 „ . . .	30	6.1	4.3	290	26	5.9	3.5	301	26	6.9	4.7	117	30	5.3	0.8	169	30	5.6	1.2	200	29	4.2	0.3	141								
0.9 „ . . .	30	6.4	4.3	295	26	6.2	4.0	315	25	7.3	4.4	110	30	5.9	0.8	150	30	5.4	1.0	148	29	4.7	0.7	139								
1.5 „ . . .	30	7.3	5.4	307	22	5.0	2.7	336	24	6.4	3.0	102	26	6.4	0.5	109	30	4.6	1.2	110	27	5.0	1.3	121								
2.1 „ . . .	30	7.6	5.2	310	18	4.3	2.5	358	19	7.1	4.0	102	24	5.5	0.7	111	30	4.1	1.6	097	22	5.0	1.9	129								
3.0 „ . . .	30	7.1	4.7	312	11	4.2	2.6	013	15	4.9	2.2	098	19	4.8	2.0	102	30	3.8	1.4	077	16	4.8	2.0	094								
3.6 „ . . .	29	6.4	3.9	313	10	3.7	2.4	029	9	3.4	0.6	010	17	3.5	1.4	071	30	3.9	1.2	076	13	4.4	2.3	107								
4.5 „ . . .	29	6.1	2.7	328	6	3.0	1.4	360	6	3.8	2.6	097	14	4.4	2.5	057	30	4.0	1.3	096	11	4.8	3.8	100								
5.4 „ . . .	29	6.9	2.8	013	3	2.1	1.2	270	4	3.4	2.8	120	14	5.7	3.9	073	30	4.9	1.9	090	10	6.1	4.6	095								
6.0 „ . . .	26	6.4	2.3	025	1	2.6	2.6	030	4	6.2	4.8	105	10	5.1	3.2	091	30	5.9	2.7	092	9	6.4	4.2	126								
7.2 „ . . .	23	6.8	2.3	046					3	4.0	1.7	135	9	4.9	2.1	059	30	5.8	2.7	090	6	7.5	4.6	123								
9.0 „ . . .	15	7.4	5.4	045					3	3.4	2.8	027	6	5.6	4.6	033	30	5.8	1.4	044	3	6.3	1.3	074								

Station	NEW DELHI								POONA								PORT BLAIR															
	1730*				2330				0530				1730				2330				0530*											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.9	0.4	094	30	1.4	0.1	205	30	0.9	0.9	260	30	2.9	2.6	277	30	1.3	1.0	260	30	2.3	2.2	240								
0.15 a.g. . .	30	4.5	0.8	076	30	5.6	1.3	180	30	5.2	4.7	261	29	7.2	6.7	269	30	5.7	5.0	266	29	7.2	6.8	241								
0.3 a.m.s.l. .	30	4.2	1.0	079	30	4.6	1.1	175													29	7.8	7.5	242								
0.6 „ . . .	30	4.0	0.5	078	30	5.8	1.3	178	30	2.4	2.3	249	29	4.6	4.3	273	30	2.8	2.5	256	29	9.3	9.9	245								
0.9 „ . . .	30	4.2	0.5	120	29	5.7	1.6	190	30	6.6	5.6	268	29	8.1	7.6	270	30	7.1	5.8	270	29	9.3	8.9	250								
1.5 „ . . .	30	4.4	0.6	200	28	4.7	0.6	262	17	7.4	3.0	302	21	8.5	7.3	272	18	7.6	5.4	282	29	8.2	7.9	251								
2.1 „ . . .	30	4.3	0.4	267	23	3.8	0.7	322	12	4.6	4.5	239	13	6.4	4.5	289	14	4.6	1.5	281	29	6.8	6.3	225								
3.0 „ . . .	30	4.2	0.9	017	19	2.9	1.0	090	11	3.1	1.9	313	8	4.4	3.7	324	11	2.9	0.5	301	29	6.0	5.3	258								
3.6 „ . . .	30	4.2	1.3	035	5	3.4	3.0	107	10	3.3	2.6	329	7	2.6	1.2	334	10	2.3	1.7	302	29	5.9	4.4	263								
4.5 „ . . .	30	4.5	2.2	045	1	3.1	3.1	055	8	4.4	2.3	013	7	3.0	1.2	319	8	2.9	1.0	009	28	6.4	4.6	262								
5.4 „ . . .	30	4.6	2.1	051	1	4.1	4.1	045					7	3.3	2.4	064	6	2.2	1.3	075	28	5.9	3.1	271								
6.0 „ . . .	30	5.1	2.2	051									6	3.6	3.5	067	3	4.5	3.6	050	27	5.7	2.3	254								
7.2 „ . . .	30	5.6	1.9	043									5	5.5	5.0	090					25	6.4	0.7	100								
9.0 „ . . .	30	5.7	1.9	018									5	7.9	7.7	089					17	9.2	7.5	078								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 16—Asvina 8, 1881 Saka)

Station	PORT BLAIR												RAIPUR											
	1130				1730*				2330				0530				1730				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	4.4	4.1	238	30	3.1	3.0	243	30	2.3	2.2	231	30	2.1	0.6	232	30	2.0	1.3	233	30	2.2	1.2	234
0.15 a.g. . .	28	5.8	5.5	340	30	7.1	6.7	250	26	3.5	3.3	236	26	6.2	2.7	258	25	5.1	2.8	261	21	5.8	2.0	254
0.3 a.m. s.l. .	28	6.1	5.8	238	30	7.6	7.2	251	26	3.7	3.5	237												
0.6 „ . . .	27	6.1	5.8	240	30	8.7	8.3	256	26	3.9	3.8	242	26	7.1	3.2	266	25	6.0	3.1	273	21	6.6	1.9	260
0.9 „ . . .	27	6.1	6.0	244	30	9.0	8.6	257	24	3.4	3.3	248	25	7.2	3.3	273	24	6.4	2.8	278	21	6.7	1.6	264
1.5 „ . . .	24	6.1	5.8	244	30	8.7	8.3	258	21	2.9	2.7	248	22	5.5	2.7	298	22	6.1	2.4	292	21	5.8	1.1	264
2.1 „ . . .	22	6.0	5.3	247	30	7.1	6.6	258	20	2.3	2.0	251	18	3.9	0.4	281	20	6.7	2.9	300	19	5.9	1.2	321
3.0 „ . . .	14	4.8	3.8	245	28	6.6	5.4	263	15	1.9	1.2	233	12	3.2	1.3	011	15	5.9	2.5	340	16	4.4	0.6	341
3.6 „ . . .	10	4.4	4.0	237	27	6.2	4.9	255	12	2.2	0.6	226	6	2.7	1.6	029	11	5.9	1.5	335	11	3.3	1.5	321
4.5 „ . . .	5	5.3	5.1	245	27	6.6	4.6	250	6	1.4	1.1	092					5	6.5	1.6	244	2	1.8	1.3	092
5.4 „ . . .	3	4.1	3.3	275	24	6.3	2.6	247	3	1.4	1.1	090					3	7.4	4.8	222	1	2.1	2.1	200
6.0 „ . . .	3	3.4	2.7	278	23	6.0	0.6	210	1	1.5	1.5	005					3	7.1	5.2	226	1	4.6	4.6	210
7.2 „ . . .	1	6.7	6.7	250	22	6.3	1.4	100									2	3.9	2.6	183				
9.0 „ . . .					14	7.7	6.7	078									2	3.1	2.9	068				

Station	RAXAUL								SANTA CRUZ															
	0530				1730				0530*				1130				1730*				2330			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.9	0.8	088	30	1.3	1.1	094	30	2.4	1.7	263	30	4.1	3.3	257	30	4.9	4.0	271	26	3.4	2.6	243
0.15 a.g. . .	28	5.9	4.5	103	30	5.1	3.2	112	30	6.1	2.8	242	28	6.5	5.8	258	30	8.0	6.8	258	30	6.0	4.4	252
0.3 a.m.s.l. .	27	6.4	4.8	107	30	5.4	3.2	109	30	6.1	4.8	251	28	6.8	5.8	259	30	7.8	6.6	255	30	6.8	5.3	256
0.6 „ . . .	22	9.5	7.0	108	30	6.5	3.9	106	30	7.2	5.8	248	27	6.6	5.4	258	30	8.6	7.1	255	30	7.3	5.8	260
0.9 „ . . .	22	9.5	6.8	106	29	7.3	4.5	106	29	7.3	5.7	245	19	7.2	5.1	267	30	8.2	7.1	254	25	6.5	5.1	265
1.5 „ . . .	16	9.0	7.8	097	28	8.9	4.9	105	29	7.4	5.4	240	10	7.9	5.9	262	30	6.9	6.3	243	17	5.8	4.4	273
2.1 „ . . .	10	6.7	5.5	103	28	9.8	5.2	107	29	7.2	5.0	236	4	4.9	2.4	241	30	7.3	7.1	229	16	6.1	4.0	271
3.0 „ . . .	9	5.5	4.1	106	21	7.5	5.0	096	29	6.6	5.0	250	2	3.6	1.0	140	30	6.5	5.5	250	9	4.6	2.5	263
3.6 „ . . .	8	4.9	3.4	075	14	6.4	4.1	092	29	6.2	4.2	258					30	7.1	4.9	254				
4.5 „ . . .	4	4.9	3.5	083	10	6.9	5.6	084	29	5.0	2.4	265					30	4.6	2.8	245				
5.4 „ . . .	3	4.4	4.4	076	4	4.5	3.7	074	29	4.4	1.6	267					30	4.7	1.5	250				
6.0 „ . . .	2	3.3	3.3	064	4	4.5	3.2	051	29	3.8	1.3	342					30	4.3	0.5	355				
7.2 „ . . .	1	2.1	2.1	065	4	7.7	6.5	053	29	4.0	2.1	322					30	4.4	1.5	039				
9.0 „ . . .	1	3.1	3.1	255	1	11.3	11.3	015	29	5.7	4.8	072					25	6.2	4.7	054				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8,—1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.9	0.7	129	30	1.0	0.3	054	30	1.0	0.3	092	30	5.6	5.6	272	30	5.6	3.7	260	30	5.0	4.3	257
0.15 a.g.	23	4.6	2.5	093	28	3.4	0.7	087	27	4.4	1.3	086	30	9.0	8.7	272	28	7.4	5.0	250	30	8.2	6.7	259
0.3 a.m.s.l.	23	5.2	2.8	096	28	3.1	0.8	092	27	4.4	1.3	094	30	10.0	9.9	272	28	7.7	5.5	252	30	8.5	6.9	260
0.6 "	23	6.5	3.0	090	27	4.3	1.4	112	27	4.8	1.4	110	30	12.4	12.2	272	28	7.7	6.1	257	30	9.8	8.4	260
0.9 "	19	6.8	3.9	082	27	4.6	1.3	125	27	5.5	1.1	134	30	11.8	11.5	273	28	7.5	6.1	262	30	10.0	8.6	263
1.5 "	19	6.3	2.1	073	27	4.5	1.6	189	26	4.2	1.6	230	30	8.9	7.7	266	28	7.7	6.4	266	29	8.1	7.1	272
2.1 "	16	5.3	2.1	068	23	4.5	2.2	167	25	4.4	1.9	215	29	6.8	4.9	272	26	8.1	6.8	273	28	6.5	4.9	273
3.0 "	13	3.9	0.8	110	19	4.6	1.4	144	20	4.4	1.3	159	26	5.5	3.4	275	22	7.7	6.7	280	25	5.7	4.6	280
3.6 "	12	3.6	0.5	167	15	3.3	1.1	099	14	3.4	1.7	130	21	6.1	3.7	277	19	7.6	6.1	289	15	5.6	4.4	285
4.5 "	10	3.4	1.1	197	13	3.1	0.8	078	7	3.8	2.3	121	14	6.9	0.5	263	15	6.7	3.9	278	4	3.2	0.3	086
5.4 "	8	3.4	0.4	265	9	3.8	1.7	295	3	5.3	3.4	158	8	5.1	3.1	120	13	5.3	0.9	324				
6.0 "	8	5.6	3.0	024	6	3.2	0.6	183	2	6.7	1.2	153	4	6.0	3.8	101	12	5.7	1.0	083				
7.2 "	6	5.3	2.9	029	2	5.7	3.9	180	1	11.8	11.8	260	2	6.9	6.9	109	9	7.2	5.5	103				
9.0 "	5	5.8	3.0	332	1	4.1	4.1	085					1	6.7	6.7	090	6	10.7	8.9	099				

Station	TRIVANDRUM												UDAIPUR											
	0530*				1130				1730*				2330				0530		1730					
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	2.3	2.1	334	30	3.4	2.8	301	30	4.7	4.3	310	30	2.5	2.2	318	30	0.7	0.4	233	30	1.4	0.8	254
0.15 a.g.	30	3.4	2.3	330	29	6.1	5.7	305	30	5.5	5.1	310	29	6.5	6.1	318	30	3.2	1.3	273	29	4.0	2.3	248
0.3 a.m.s.l.	30	4.6	4.4	326	29	6.5	6.2	302	30	6.1	5.6	308	29	7.7	7.1	314								
0.6 "	30	6.5	6.5	312	29	7.2	6.8	304	30	7.2	6.9	305	29	9.5	8.9	308								
0.9 "	30	8.2	7.8	302	20	8.0	7.5	306	30	8.5	8.1	300	26	10.1	9.5	306	30	4.4	1.4	290	29	4.7	2.2	253
1.5 "	30	9.0	8.4	292	7	8.1	6.9	314	30	8.9	8.2	297	21	10.0	9.3	300	22	5.3	0.4	230	26	6.0	2.2	261
2.1 "	30	8.5	7.7	288	2	6.2	5.5	300	30	8.6	8.1	286	15	8.6	7.1	284	14	4.7	2.2	084	21	5.8	1.3	294
3.0 "	30	7.5	6.3	284	1	4.1	4.1	085	30	7.7	6.6	280	11	4.9	3.1	284	10	3.5	1.6	076	13	6.0	2.3	016
3.6 "	30	6.9	5.6	276	1	5.1	5.1	035	30	7.1	5.8	280	9	4.9	1.2	248	8	3.3	1.4	085	10	5.5	2.2	033
4.5 "	30	6.0	3.8	263					30	5.9	3.8	285	7	3.5	0.7	102	4	5.1	5.0	061	7	6.4	2.2	327
5.4 "	30	5.0	1.3	295					30	4.9	1.6	293	5	4.4	0.8	105	1	2.1	2.1	080	2	6.9	6.8	330
6.0 "	30	4.8	0.2	004					30	4.6	0.1	021	5	6.6	3.5	088					2	6.9	6.9	331
7.2 "	30	5.9	1.1	210					30	5.6	3.0	103	4	5.9	4.9	097					1	7.7	7.7	335
9.0 "	27	9.5	8.7	098					29	9.3	8.3	258												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Station	UDAIPUR				VENGURLA												VERAVAL											
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.8	0.5	244	30	1.0	0.5	276	30	2.0	1.6	265	30	1.0	0.8	273	30	4.9	4.0	259	30	5.6	4.7	260				
0.15 am.g. . .	29	3.4	1.7	246	30	6.1	3.8	284	30	6.6	5.8	275	30	5.1	4.1	295	30	7.5	6.3	271	30	7.2	6.1	256				
0.3 a.m.s.l. . .					30	7.2	5.0	286	30	7.5	6.5	283	30	7.0	5.6	298	30	7.2	6.1	270	30	7.8	6.7	258				
0.6 „ . . .					30	8.3	6.3	280	28	9.0	8.0	287	30	8.6	7.2	300	30	7.2	6.1	266	29	8.1	7.2	258				
0.9 „ . . .	29	4.5	2.1	261	20	8.7	6.6	300	22	9.5	8.4	288	24	8.7	7.7	297	30	6.6	5.6	260	25	7.7	6.8	256				
1.5 „ . . .	26	6.6	1.0	275	15	6.8	4.8	325	14	7.1	6.1	295	17	6.0	4.8	281	30	6.2	4.8	252	16	5.1	3.8	237				
2.1 „ . . .	22	5.7	1.5	049	9	5.6	1.6	016	9	5.2	3.1	290	12	3.7	1.1	360	30	5.6	4.4	256	9	4.5	2.5	220				
3.0 „ . . .	17	5.3	2.1	063	7	4.1	2.7	088	8	4.3	2.2	320	11	4.0	2.0	067	30	4.9	2.7	267	7	3.8	1.5	157				
3.6 „ . . .	14	4.4	3.1	055					6	2.4	1.7	014	3	3.4	3.1	120	29	4.1	1.5	270	6	3.2	2.0	137				
4.5 „ . . .	9	6.7	5.4	070					5	2.5	1.1	106	1	5.7	5.7	120	29	4.5	0.2	186	5	4.4	2.7	120				
5.1 „ . . .	4	6.2	5.4	048					5	3.2	2.6	088					20	4.4	0.8	084	2	5.4	5.4	159				
6.0 „ . . .	4	5.1	4.1	045					5	4.7	4.2	093					28	4.6	1.5	052	2	3.3	3.2	201				
7.2 „ . . .	1	2.1	2.1	075					4	6.0	6.3	082					26	5.5	2.4	065	2	2.1	1.7	238				
9.0 „ . . .									1	11.8	11.8	090					18	5.1	2.4	083	1	3.6	3.6	200				

Station	VERAVAL								VISAKHAPATNAM															
	1730*				2330				0530				1730				2330							
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Surface . . .	30	6.0	5.3	265	30	4.8	4.0	252	30	2.2	2.1	227	30	3.5	3.3	227	30	2.3	2.2	229				
0.15 a.g. . .	30	10.0	7.9	273	29	6.8	5.7	265	28	5.1	4.6	240	23	5.5	5.0	222	29	4.0	3.4	230				
0.3 a.m.s.l. . .	30	8.5	8.2	270	29	7.1	5.8	264	28	6.1	5.8	245	28	5.6	5.0	225	29	4.8	4.4	237				
0.6 „ . . .	30	8.4	7.8	270	28	7.2	5.8	267	28	6.6	6.3	239	23	5.9	5.0	243	29	5.4	4.6	218				
0.9 „ . . .	30	7.9	7.1	266	24	6.6	5.3	263	26	6.2	5.8	265	23	6.5	5.0	263	28	5.5	4.2	272				
1.5 „ . . .	30	6.7	5.7	261	20	5.6	3.5	254	26	7.6	6.6	277	26	8.2	6.4	281	27	7.5	5.4	291				
2.1 „ . . .	30	6.4	5.3	258	18	5.2	3.4	252	18	6.1	4.7	291	25	8.9	6.9	293	24	6.5	3.8	289				
3.0 „ . . .	29	6.0	5.5	251	16	4.7	2.0	235	12	4.0	2.9	302	17	8.1	5.9	303	10	5.2	3.0	285				
3.6 „ . . .	29	4.8	3.0	252	6	3.6	0.7	310	6	2.7	1.9	017	15	6.7	5.1	306	4	3.9	2.1	295				
4.5 „ . . .	30	3.6	1.1	240	2	4.6	3.1	195	3	2.9	2.4	073	12	4.5	2.1	298	2	4.9	2.5	320				
5.4 „ . . .	29	4.1	1.2	087					2	4.4	4.0	101	5	4.6	0.6	232								
6.0 „ . . .	29	4.0	1.2	120									5	4.7	0.9	126								
7.2 „ . . .	29	3.6	1.6	078									4	4.1	3.5	073								
9.0 „ . . .	18	5.7	4.1	085									2	4.1	4.1	067								

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	
		AGARTALA					ASANSOL 1730 hrs.					BIKANER 1730 hrs.					GAUHATI 1130 hrs.					JABALPUR 0530 hrs.			
10.5	4	7.2	3.5	244	10.5	2	3.6	2.1	225	10.5	4	6.1	2.4	299	10.5	1	5.7	5.7	300	10.5	1	4.6	4.6	250	
12.0	3	8.9	4.8	294	12.0	1	4.1	4.1	120	12.0	3	8.9	7.3	297	12.0	1	5.7	5.7	310	12.0	1	8.2	8.2	260	
		AMAUSI 1730 hrs.					BAGHDOGRA 0530 hrs.					DEHRA DUN 0530 hrs.					1730 hrs.*					1730 hrs.*			
10.5	1	0.5	0.5	210	10.5	1	6.2	6.2	070	10.5	1	1.5	1.5	295	10.5	21	8.5	5.3	292	14.1	1	6.7	6.7	325	
12.0	1	1.0	1.0	140	12.0	1	5.7	5.7	065	16.2	1	2.1	2.1	110	12.0	18	9.7	6.9	288	16.2	1	8.7	8.7	060	
		AMBALA 1730 hrs.					BAMRAULI 0530 hrs.*					DUM DUM 0530 hrs.*					GAYA 0530 hrs.					JAMSHEDPUR 0530 hrs.			
10.5	2	5.7	1.3	020	10.5	19	8.2	2.7	068	10.5	2	8.2	7.9	293	10.5	2	4.9	2.0	006	10.5	3	4.5	3.4	271	
12.0	2	6.9	3.9	352	12.0	12	7.1	0.1	108	12.0	2	5.9	5.5	312	12.0	2	5.7	5.6	057	12.0	2	4.1	2.6	251	
14.1	2	7.7	5.9	330	14.1	6	8.6	4.2	049	14.1	1	2.1	2.1	300	14.1	2	7.7	7.6	076	14.1	2	8.2	7.8	086	
16.2	2	7.5	6.4	304	16.2	1	17.5	17.5	040	10.5	14	4.1	0.4	215	10.5	2	14.2	14.2	083	10.5	12	7.1	2.3	090	
18.0	1	7.7	7.7	270	18.0	1	17.5	17.5	040	12.0	10	5.7	2.8	150	16.2	2	14.2	14.2	083	12.0	8	5.4	3.6	015	
21.0	1	3.6	3.6	030		1730 hrs.*				14.1	5	10.6	7.9	070	18.0	1	6.7	6.7	090	14.1	3	17.3	12.5	060	
24.0	1	5.1	5.1	230	10.5	19	6.4	1.6	050	16.2	2	18.0	18.0	070	21.0	1	13.9	13.9	085	14.1	3	17.3	12.5	060	
27.0	1	5.7	5.7	230	12.0	15	8.3	3.5	086	18.0	1	24.7	24.7	070		1730 hrs.					1730 hrs.*				
		AMRITSAR 0530 hrs.*				14.1	6	8.2	7.9	054		1730 hrs.*				10.5	1	6.7	6.7	070	10.5	10	6.7	4.8	057
10.5	16	8.1	4.9	297	16.2	3	13.2	5.0	042	10.5	19	4.5	1.5	120	12.0	1	9.8	9.8	080	12.0	6	5.3	4.9	060	
12.0	14	8.2	5.0	315		BAREILLY 0530 hrs.				12.0	14	5.5	2.6	171	14.1	2	10.8	9.5	070	14.1	2	10.8	9.5	070	
14.1	9	10.0	9.4	316	10.5	1	7.2	7.2	065	14.1	8	7.5	2.8	035		GORAKHPUR 0530 hrs.					MADRAS 0530 hrs.*				
16.2	1	11.8	11.8	080	12.0	1	9.8	9.8	075	16.2	5	10.0	7.8	089	10.5	1	9.8	9.8	355	10.5	24	14.4	13.9	092	
18.0	1	11.8	11.8	070		1730 hrs.				10.5	1	3.6	3.6	075	10.5	7	5.8	2.5	342	12.0	20	17.9	17.3	090	
21.0	1	17.0	17.0	080	10.5	14	7.0	2.2	004	10.5	6	8.1	8.1	100	12.0	5	5.7	1.6	083	14.1	10	25.7	25.1	088	
		1730 hrs.*				12.0	10	7.6	4.0	011	12.0	4	14.8	14.6	085	14.1	3	7.4	7.3	073	16.2	5	20.9	20.8	086
10.5	22	6.3	3.8	290	14.1	7	7.7	5.3	004	10.5	6	8.1	8.1	100	14.1	3	7.4	7.3	073	18.0	1	8.2	8.2	090	
12.0	16	6.9	4.2	271	16.2	4	9.4	4.6	041	12.0	4	14.8	14.6	085	16.2	2	12.9	12.8	087		1130 hrs.				
14.1	9	6.3	4.4	265	18.0	4	9.3	5.5	081	14.1	1	26.7	26.7	085	18.0	1	7.2	7.2	080	10.5	4	15.6	15.4	090	
16.2	3	5.0	1.5	029	21.0	2	5.1	4.6	065	16.0	1	23.2	23.2	080		1730 hrs.*				12.0	3	13.5	13.0	101	
		ANANTAPUR 1730 hrs.					BHAGALPUR 0530 hrs.					GAUHATI 0530 hrs.*					GWALIOR 0530 hrs.					MINICOY 1730 hrs.			
10.5	2	13.9	13.8	087	10.5	1	10.8	10.8	035	10.5	20	8.1	3.9	288	10.5	2	7.7	2.6	030	10.5	22	13.9	12.8	093	
12.1	2	16.2	16.0	084		1730 hrs.				12.0	20	9.3	4.6	295	12.0	2	11.3	3.7	001	12.0	17	17.3	16.6	090	
14.1	2	20.8	20.8	091		1730 hrs.				14.1	12	9.9	6.1	336	14.1	3	7.4	7.3	073	14.1	14	25.7	25.4	094	
16.2	1	29.3	29.3	095		1730 hrs.				16.2	5	7.0	2.0	034	16.2	2	12.9	12.8	087	16.2	8	26.1	26.0	094	
		ASANSOL 0530 hrs.				10.5	1	6.7	6.7	190	18.0	1	9.8	9.8	080	10.5	10	6.1	2.7	345	18.0	4	22.9	21.8	097
10.5	1	6.2	6.2	290	12.0	1	3.1	3.1	120	21.0	1	13.4	13.4	060	12.0	6	9.0	2.9	021		1730 hrs.				
		1730 hrs.*				14.1	1	5.7	5.7	125	24.0	1	14.4	14.4	350	14.1	4	8.5	7.4	066	10.5	2	20.8	20.6	105
		1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*					1730 hrs.*			

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 Km. above mean sea level

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	MOHANBARI					NEW DELHI 1730 hrs.					SANTA CRUZ 1730 hrs.*					VERAVAL 1730 hrs.*			
	0530 hrs.				10.5	30	5.7	1.3	006	10.5	23	9.4	8.8	068	10.5	13	8.6	7.1	107
10.5	2	13.6	12.6	271	12.0	28	7.4	4.0	026	12.0	22	13.1	12.4	064	12.0	10	9.9	8.6	099
12.0	1	17.5	17.5	285	14.1	26	8.2	6.3	031	14.1	16	13.1	16.1	063	14.1	5	13.2	11.6	079
					16.2	23	8.7	6.8	070	16.2	5	24.6	23.6	078	16.2	3	13.9	12.5	098
	NAGPUR				18.0	16	8.9	8.2	085	18.0	3	27.2	27.1	053	18.0	1	12.9	12.9	095
	0530 hrs.*				21.0	6	11.1	10.9	093					21.0	1	8.7	8.7	090	
10.5	11	9.3	7.4	059	24.0	2	13.6	13.2	095		TEZPUR					VISAKHAPATNAM			
12.0	9	13.7	11.9	065		POONA					0530 hrs.					1730 hrs.			
14.1	4	20.6	20.4	076		1730 hrs.				10.5	2	8.2	1.8	045	10.5	1	2.1	2.1	025
16.2	2	22.7	22.7	069	10.5	3	11.8	11.5	101	12.0	1	9.3	9.3	080	12.0	1	4.6	4.6	090
	1730 hrs.*				12.0	2	13.6	12.8	102		1730 hrs.				14.1	1	4.1	4.1	110
10.5	9	8.8	6.7	062	14.1	2	19.3	18.5	105	10.5	1	5.7	5.7	085					
12.0	7	10.6	8.3	061	16.2	2	15.7	15.7	099		TIRUCHIRAPALLI								
14.1	4	16.2	13.7	078	18.0	1	6.2	6.2	095		1730 hrs.								
						PORT BLAIR				10.5	3	17.0	16.5	106					
						0530 hrs.*				12.0	2	25.0	24.1	090					
10.5	3	6.0	5.9	001	10.5	12	12.6	11.7	089		TRIVANDRUM								
12.0	2	4.6	2.6	030	12.0	7	17.9	17.6	090		0530 hrs.*								
14.1	1	8.7	8.7	085	14.1	3	24.6	24.6	098	10.5	25	13.2	12.6	094	12.0	20	20.2	19.1	081
					16.2	2	31.6	31.6	100	14.1	15	30.2	28.8	087	16.2	4	21.1	20.7	097
					18.0	1	49.2	49.2	105	18.0	2	19.3	19.3	075					
10.5	4	9.8	9.3	011		1730 hrs.*				10.5	29	16.0	14.9	095					
12.0	3	10.7	6.8	016	10.5	12	13.5	11.8	073	12.0	26	22.4	21.3	087					
14.1	2	10.0	9.8	059	12.0	7	17.3	16.6	070	14.1	22	29.2	28.4	087					
16.2	1	7.7	7.7	055	14.1	3	19.9	19.4	096	16.2	13	25.6	25.1	088					
18.0	1	11.8	11.8	065	16.2	1	13.0	13.0	080	18.2	5	14.4	13.8	097					
						RAIPUR				21.0	1	15.4	15.4	150					
						1730 hrs.					VERAVAL								
						0530 hrs.*				10.5	13	7.9	6.2	098					
10.5	30	6.0	0.9	036	10.5	1	2.1	2.1	010	12.0	9	11.3	8.6	092					
12.0	30	7.3	3.0	022	12.0	1	3.1	3.1	035	14.1	7	19.0	18.1	084					
14.1	28	7.9	5.4	015		RAXAUL				16.2	4	18.5	17.9	084					
16.2	27	8.6	7.4	014		1730 hrs.				18.0	1	18.0	18.0	050					
18.0	19	9.5	8.8	072	10.5	1	13.4	13.4	020		1130 hrs.								
21.0	4	8.9	7.6	099		SANTA CRUZ				10.5	1	4.1	4.1	055					
24.0	1	12.4	12.4	110		0530 hrs.*				12.0	1	4.1	4.1	005					
27.0	1	10.8	10.8	080	10.5	27	8.7	8.0	067	14.1	1	5.7	5.7	045					
					12.0	24	12.4	11.7	071	16.2	1	8.7	8.7	090					
					14.1	18	18.7	18.0	070		1130 hrs.								
10.5	1	4.1	4.1	055	16.2	11	22.3	21.5	072	10.5	1	4.1	4.1	205					
12.0	1	4.1	4.1	005	18.0	5	22.3	22.0	069	12.0	1	4.6	4.6	220					
14.1	1	5.7	5.7	045	21.0	1	24.2	24.2	060										
16.2	1	8.7	8.7	090	24.0	1	21.6	21.6	080										

ADIOSONDE DATA

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

Serial No.	Name of Station	Type of instrument used	Date of starting	Hours of routine observations in GMT during the month	Remarks
	Allahabad	Clock type	1st October, 1944	00 and 12	
2	Amritsar	Clock type	21st June, 1957	00 and 12	
3	Bombay	Clock type	7th September, 1954	00 and 12	
4	Calcutta	Clock type	13th December, 1946	00 and 12	Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July, 1955	00 and 12	
6	Jodhpur	Clock type	17th April, 1946	00 and 12	
7	Madras	Fan type	29th June, 1946	00 and 12	
8	Nagpur	Fan type	1st October, 1946	00 and 12	
9	New Delhi	Clock type	3rd December, 1943	00 and 12	
10	Port Blair	Fan type	4th December, 1949	00 and 12	
11	Trivandrum	Fan type	1st July, 1947	00 and 12	
12	Veraval	Fan type	3rd October, 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December, 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 hrs. G. M. T.

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Standard Pressure Surface mbs.	ALLAHABAD (Surf. Pr. 992 mb.)						AMRITSAR (976 mb.)						BOMBAY (1004 mb.)																	
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A															
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point												
Surface	30	098	299.7	303	297	297.3	29	230	299.1	301	297	297.7	30	013	298.0	299	297	296.7												
1000	29	022	..	..	..	..	29	018	..	..	..	..	30	047	..	..	..	..								
900	29	950	296.3	299	293	292.4	29	947	296.7	300	293	293.1	30	966	293.6	296	291	291.1												
850	29	1448	293.8	297	291	289.6	29	1445	293.6	298	290	290.3	30	1460	291.0	294	287	287.5												
800	29	1971	291.0	295	288	286.3	29	1968	290.3	294	287	287.0	30	1979	288.8	292	285	284.4												
700	29	3105	285.4	290	283	279.8	29	3098	283.9	287	280	279.8	30	3104	283.3	287	280	277.2												
600	28	4384	279.4	285	275	272.3	29	4371	277.3	281	273	271.9	30	4373	276.7	280	273	271.3												
500	28	5859	271.2	278	266	264.0	28	5835	269.4	273	263	264.4	30	5836	269.1	273	266	..												
400	28	7600	261.0	268	256	..	28	7564	259.3	264	253	..	30	7568	259.9	264	256	..												
300	26	9746	247.5	255	241	..	25	9689	246.0	250	240	..	30	9706	246.7	253	243	..												
250	22	11053	239.0	247	234	..	24	10981	236.2	241	230	..	28	11008	238.5	246	235	..												
200	20	12586	228.9	237	222	..	24	12491	225.9	232	221	..	24	12530	227.8	238	222	..												
175	19	13458	222.3	227	216	..	24	13465	219.9	227	214	..	22	13409	221.3	228	215	..												
150	16	14460	216.7	222	211	..	21	14344	213.0	220	205	..	18	14385	214.7	221	208	..												
125	12	15651	210.7	216	206	..	13	15482	206.5	209	200	..	16	15511	207.4	213	202	..												
100	9	16926	204.3	209	199	..	9	16828	201.9	205	196	..	10	16763	202.0	209	196	..												
80	5	18234	204.8	209	200	..	7	18161	204.1	205	198	..	5	18289	204.0	210	197	..												
CALCUTTA (1002 mb.)																			GAUHATI (1000 mb.)						JODHPUR (978 mb.)					
Surface	30	006	299.3	303	297	298.5	30	049	298.7	301	296	297.5	25	218	298.6	300	296	296.4												
1000	30	020	..	..	..	..	30	046	..	..	..	..	25	018	..	..	..	..								
900	30	943	294.8	299	292	292.8	30	969	294.3	297	291	291.1	25	945	295.0	298	291	291.6												
850	30	1437	292.0	295	289	289.4	30	1463	291.8	295	288	287.8	25	1441	292.4	297	288	289.2												
800	30	1956	289.1	293	287	286.6	30	1982	288.8	292	285	285.4	25	1963	290.3	294	287	285.8												
700	30	3091	283.6	287	280	280.8	30	3106	283.3	286	279	279.4	25	3095	285.0	289	281	278.2												
600	30	4349	277.1	279	275	273.8	30	4373	276.8	281	272	272.5	25	4374	278.1	282	273	270.7												
500	29	5812	269.7	272	267	..	30	5835	268.9	273	263	..	25	5841	270.0	273	266	..												
400	28	7548	260.7	264	258	..	30	7562	258.8	263	251	..	24	7579	260.7	265	257	..												
300	20	9690	247.3	251	243	..	27	9691	246.8	250	236	..	20	9727	246.9	252	242	..												
250	14	10995	238.9	243	233	..	25	10993	237.8	242	232	..	17	11029	238.6	244	234	..												
200	10	12519	226.6	232	220	..	25	12515	227.8	233	222	..	14	12571	228.5	234	223	..												
175	9	13385	219.2	226	212	..	20	13392	222.6	231	214	..	10	13441	221.7	227	219	..												
150	6	14353	209.5	217	201	..	17	14386	216.8	226	206	..	7	14407	215.6	220	212	..												
125						..	12	15506	210.2	214	204	..	6	15570	207.8	213	203	..												
100						..	12	16880	206.2	211	202	..	5	16901	202.4	205	200	..												
80						..	6	18290	203.7	207	197	..						..					

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 hrs. G. M. T.

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1003 mb.)						NAGPUR (975 mb.)						NEW DELHI (979 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	290.6	301	297	296.4	28	311	296.7	299	295	295.5	30	210	299.2	301	297	297.3
1000	30	046	..	..	..	..	28	0.8	..	..	..	..	30	023	..	..	..	..
900	30	971	295.3	298	292	290.0	28	952	296.0	298	293	290.7	30	954	297.2	300	294	293.5
850	30	1467	292.7	296	290	287.5	28	1449	293.2	295	291	288.7	30	1454	294.2	297	291	290.1
800	30	1988	289.5	294	286	283.9	28	1971	289.9	293	288	285.6	30	1968	291.1	293	289	286.6
700	30	3113	282.9	287	279	277.8	27	3100	284.0	287	281	278.6	30	3111	284.3	283	281	279.9
600	30	4379	275.4	277	272	270.7	27	4376	277.8	281	275	270.9	30	4368	277.9	281	274	270.9
500	30	5832	267.0	271	261	..	26	5845	270.3	274	267	..	30	5857	270.0	273	266	..
400	30	7543	256.0	260	251	..	25	7580	260.3	266	257	..	30	7594	260.1	263	256	..
300	27	9636	240.3	246	235	..	20	9717	245.9	255	241	..	30	9733	246.6	251	243	..
250	22	10892	230.4	237	218	..	15	11010	236.9	248	231	..	30	11026	237.2	241	232	..
200	18	12353	217.2	224	207	..	13	12525	226.0	235	215	..	29	12537	226.1	229	222	..
175	15	13195	211.4	217	202	..	12	13386	219.3	229	209	..	28	13407	219.6	222	214	..
150	11	14132	205.5	211	196	..	12	14376	212.3	222	203	..	27	14381	212.4	216	206	..
125	8	15239	201.4	210	197	..	9	15489	206.8	215	199	..	27	15496	206.1	210	200	..
100						..	7	16779	203.9	215	197	..	26	16821	201.5	207	193	..
80						..						..	16	18117	203.4	213	198	..
	PORT BLAIR (998 mb.)						TRIVANDRUM (1001 mb.)						VERAVAI (1003 mb.)					
Surface	30	079	297.5	299	295	297.0	30	064	298.1	299	296	296.2	30	008	299.6	301	297	297.1
1000	30	066	..	..	..	..	30	068	..	..	..	..	30	037	..	..	..	..
900	30	987	293.8	295	293	292.2	30	988	292.6	295	290	289.5	30	958	293.6	299	290	290.3
850	30	1480	291.3	294	289	289.6	30	1480	290.3	295	287	286.3	30	1419	290.7	294	288	286.9
800	30	1999	288.8	291	287	286.4	30	1997	288.0	293	286	282.7	30	1966	288.4	292	282	283.6
700	30	3124	283.6	287	281	279.6	30	3116	282.3	287	279	275.7	30	3090	283.3	289	278	274.6
600	30	4392	276.1	279	271	273.3	30	4380	275.0	278	271	268.4	30	4362	277.6	280	274	265.2
500	30	5846	268.2	271	262	..	30	5829	266.8	271	263	..	29	5823	268.8	273	263	..
400	29	7566	257.9	264	252	..	30	7541	255.8	259	249	..	27	7555	259.3	264	255	..
300	20	9683	243.5	249	239	..	30	9634	240.2	247	231	..	20	9632	246.5	249	240	..
250	16	10953	234.5	241	227	..	27	10898	231.1	240	223	..	18	10981	238.3	242	233	..
200	12	12452	222.8	227	216	..	24	12374	220.1	225	212	..	16	12491	228.2	230	220	..
175	10	13322	217.0	222	211	..	22	13217	214.3	224	206	..	12	13250	216.9	223	211	..
150	8	14339	211.4	216	207	..	21	14170	206.6	215	197	..	13	14306	209.7	216	200	..
125	7	15470	205.9	219	199	..	18	15273	202.4	209	198	..	12	15441	204.3	213	197	..
100						..	14	16601	201.8	210	193	..	9	16797	203.3	213	197	..
80						..	6	17987	203.5	212	197	..						..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 hrs. G. M. T.

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (998 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	299.3	301	298	297.0
1000	30	029	..	..	..	..
900	30	958	295.5	299	293	291.3
850	30	1455	292.8	295	290	288.4
800	30	1977	289.9	293	286	285.7
700	30	3105	284.2	288	282	279.3
600	30	4377	277.4	281	275	270.9
500	28	5841	269.5	275	266	..
400	27	7572	259.3	266	256	..
300	19	9701	243.8	251	237	..
250	17	10981	233.8	241	227	..
200	15	12465	221.1	227	212	..
175	13	13303	213.6	219	206	..
150	11	14258	205.6	214	199	..
125	7	15337	202.1	208	196	..
100						
80						

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 hrs. G. M. T.

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1001 mb.)						NAGPUR (966 mb.)						NEW DELHI (977 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	303.3	305	302	297.1	30	311	301.2	306	296	295.6	30	210	304.2	307	296	297.6
1000	30	028	..	..	..	..	30	003	..	..	..	..	30	001	..	..	..	..
900	30	963	297.8	300	295	290.3	30	937	297.6	301	294	291.5	30	943	299.4	305	297	293.5
850	30	1463	294.2	297	293	288.1	30	1436	294.2	297	290	289.1	30	1446	295.7	300	293	290.6
800	30	1986	290.4	292	288	285.1	30	1957	290.8	294	288	286.6	30	1972	292.2	295	290	279.2
700	30	3114	283.6	287	279	278.0	30	3091	284.8	290	282	277.9	30	3110	285.9	289	283	271.0
600	30	4384	276.9	281	273	269.7	30	4370	278.5	284	276	271.6	30	4393	279.2	284	275	265.9
500	30	5845	268.6	273	263	..	29	5844	270.7	275	268	265.0	30	5871	271.6	276	265	..
400	30	7569	257.4	261	254	..	26	7581	260.9	264	258	..	30	7615	260.7	265	257	..
300	26	9694	243.4	254	238	..	20	9722	246.6	250	243	..	30	9761	247.3	252	241	..
250	22	10969	234.1	241	225	..	15	11007	235.9	240	231	..	30	11058	238.0	242	232	..
200	19	12467	223.1	229	214	..	11	12527	224.6	231	216	..	29	12586	226.6	232	223	..
175	16	13308	215.7	223	205	..	8	13382	218.1	223	210	..	27	13454	220.1	225	216	..
150	15	14262	208.1	215	199	..	7	14332	208.7	216	201	..	26	14436	213.6	217	209	..
125	11	15378	203.3	211	195	..	6	15435	203.8	210	197	..	25	15568	207.8	217	202	..
100	8	16697	199.6	207	193	..						..	22	16900	201.5	209	196	..
80	5	17990	200.4	208	193	..						..	18	18208	201.8	207	198	..
	PORT BLAIR (997 mb.)						TRIVANDRUM (999 mb.)						VERAVAL (1003 mb.)					
Surface	30	079	299.1	301	297	297.6	30	064	301.4	303	299	296.6	30	008	301.2	303	296	298.1
1000	30	054	..	..	..	..	30	057	..	..	..	..	29	031	..	..	..	..
900	30	977	293.6	295	291	291.5	30	984	294.7	297	292	289.9	29	958	294.1	296	292	291.8
850	30	1470	291.2	293	288	288.8	30	1478	292.1	296	289	286.2	29	1451	291.6	294	289	289.1
800	30	1988	288.9	291	287	288.9	30	1998	289.3	292	285	283.4	29	1959	288.8	291	287	285.8
700	30	3112	282.8	286	280	279.5	30	3124	283.9	288	281	276.1	29	3096	284.6	288	282	277.2
600	29	4377	275.6	279	270	272.4	30	4396	277.7	283	273	270.1	29	4371	278.2	280	275	271.0
500	29	5828	267.7	271	263	..	30	5858	269.2	275	265	..	29	5834	270.1	273	267	..
400	29	7546	257.4	260	253	..	30	7583	258.2	263	252	..	29	7571	258.8	263	254	..
300	22	9669	242.9	250	237	..	29	9693	242.3	251	237	..	20	9713	246.3	254	241	..
250	16	10952	233.9	239	228	..	29	10962	231.9	244	229	..	19	11005	237.0	248	227	..
200	10	12426	221.0	229	215	..	27	12444	221.5	228	215	..	15	12509	224.9	233	215	..
175	10	13265	216.4	226	208	..	24	13282	214.0	221	209	..	12	13388	220.8	227	216	..
150	19	14214	208.6	213	201	..	24	14201	207.7	215	202	..	12	14376	213.9	220	207	..
125	7	15324	203.2	207	196	..	20	15342	202.6	209	197	..	11	15498	206.5	215	201	..
100	5	16670	199.4	202	197	..	17	16655	202.8	210	195	..	7	16882	204.4	214	200	..
80							8	17980	204.1	216	197	..						..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 hrs. G. M. T.

September, 1959 (Bhadra 10—Asvina 8, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (996 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	301.5	304	299	297.9
1000	30	011	..	..	..	..
900	30	946	296.9	300	293	291.5
850	30	1445	294.2	297	291	288.8
800	30	1969	291.1	293	288	286.0
700	30	3101	285.3	289	283	279.7
600	30	4380	278.3	281	276	271.9
500	30	5851	270.5	275	267	..
400	30	7588	259.9	264	253	..
300	21	9724	245.5	252	240	..
250	18	11019	236.3	244	228	..
200	12	12508	221.6	229	212	..
175	9	13344	214.4	222	206	..
150	9	14310	207.6	216	200	..
125	8	15367	201.1	209	193	..
100	5	16733	197.2	201	193	..
80						..

Note : Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273 °A.

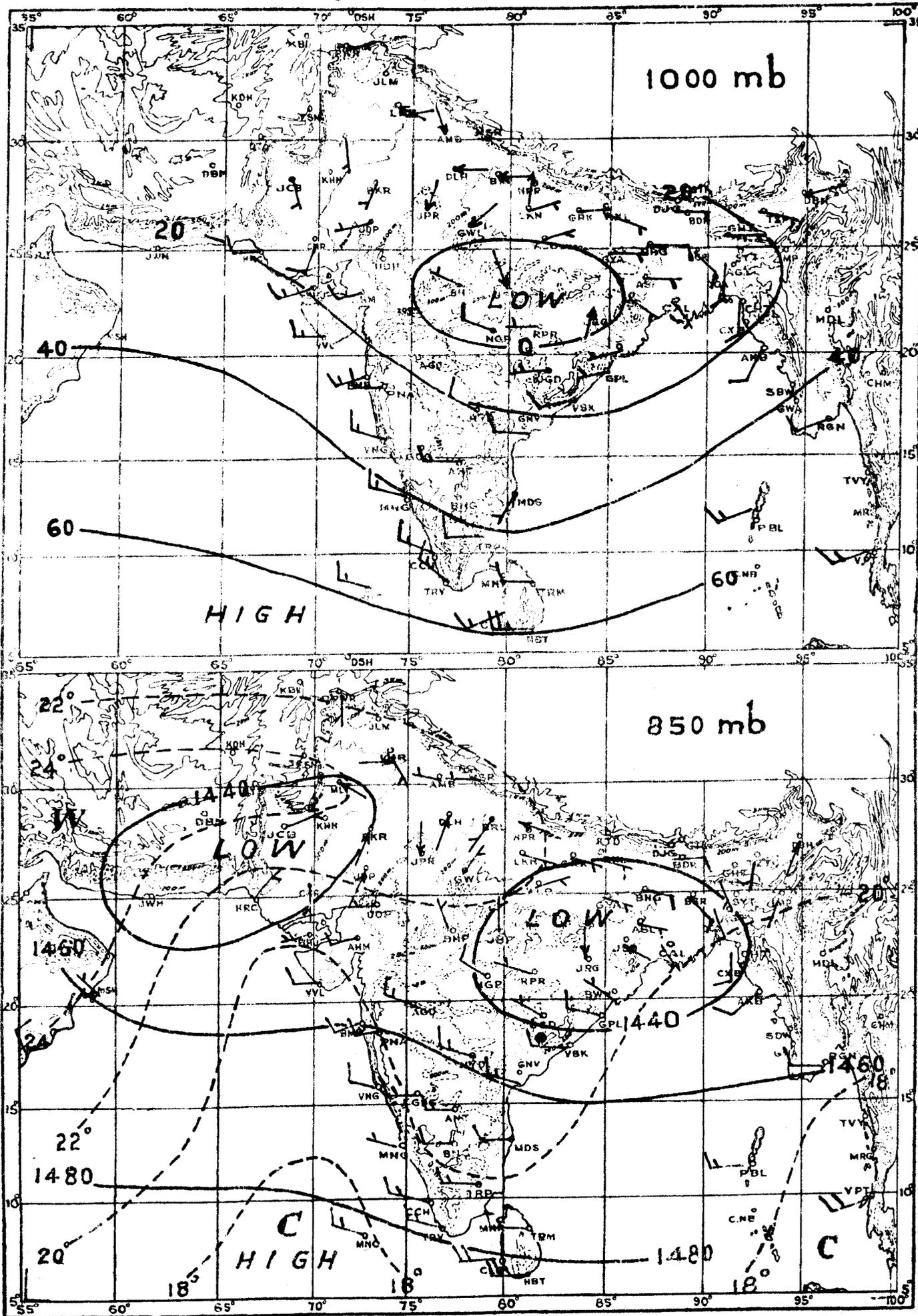
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

SEPTEMBER 1959

I Met.D.

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

DDCC/2184(1)13:64

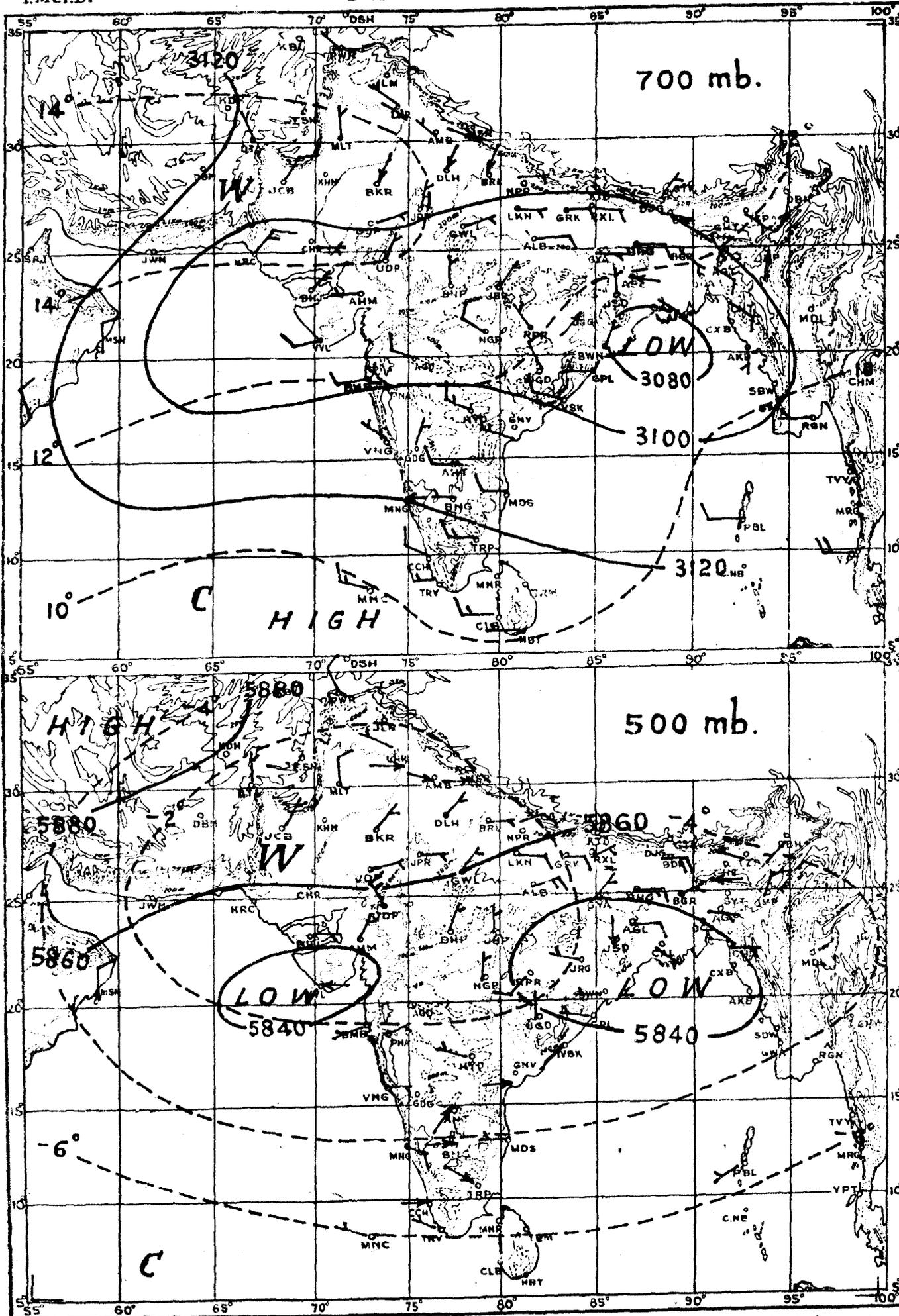
G.P.E. P. DOONA, 1953

MONTHLY MEAN CONSTANT PRESSURE CHARTS

SEPTEMBER 1959

Plate II

I Met.D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots. *Kok*
 - - - - Isotherms in degrees centigrade — Contours in geopotential metres.

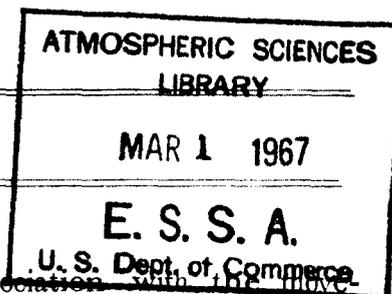
DGCG/2184(2):3:64
 G.P.E. P. BOONA, 1963

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

OCTOBER

Published by authority of the Government of India



Chief features :—

- (1) Heavy to very heavy rains and floods in West Bengal in association with the formation of a severe Bay of Bengal cyclonic storm;
- (2) Formation and movement of a severe cyclonic storm in the Arabian Sea during the middle of the month;
- (3) Late withdrawal of the monsoon from the country; and
- (4) Formation and movement of a depression in the Bay of Bengal towards the end of the month.

Towards the end of September 1959, a severe cyclonic storm of small extent had developed in the Bay of Bengal and was centred about 250 kms south of Calcutta on the morning of 30th September. Moving in a northwesterly direction, it crossed the coast close to Balasore on the early morning of 1st October, weakened and lay as a deep depression with its centre at 0830 hrs. IST on that day, about 100 kms to the south of Jamshedpur. Moving further northwestward and also weakening, it lay as a depression centred about 100 kms north of Jharsuguda on 2nd morning and as a low pressure area over Bihar and neighbourhood on the 3rd. By 5th, it filled up over east Uttar Pradesh, northwest Madhya Pradesh and the neighbourhood. In association with this severe cyclonic storm, widespread rain with locally heavy to very heavy falls occurred in Gangetic West Bengal and the adjoining areas of Bihar between 1st and 4th October and in Orissa on 1st. Some of the noteworthy amounts of rainfall were : Burdwan 22 cm, Calcutta and Saugor Island 21 cm each, Balasore 20 cm and Baripada 19 cm on 1st; Dumka 18 cm on 2nd and again 17 cm on 3rd and Purnea 18 cm on 3rd. According to press reports, the severe cyclonic storm caused gales and widespread floods in many districts of West Bengal and of north Orissa leading to huge loss of life and property. The storm blew off hundreds of roofs, uprooted a large number of trees and electric and telegraphic poles and disrupted telecommunications and power supply in many districts of West Bengal, Bihar and Orissa. Many rivers in these areas rose in spate submerging large tracts of land under water. The low lying areas in the city of Calcutta were heavily flooded for two days, throwing civic life in that city out of gear. At Garden Reach, Calcutta, the Hoogly river was reported to have registered an all-time tide record on 5th October. In Balasore district alone, about 8 lakh acres of standing paddy crops were completely destroyed, about 75 persons lost their lives and more than 1000 heads of cattle perished due to the cyclone.

Under the influence of an easterly wave, a well marked low developed over the west central Bay of Bengal and the adjoining parts of coastal Andhra Pradesh on 7th morning. It moved inland and lay as a trough of low pressure extending from the east Arabian Sea off the Konkan coast to coastal Andhra Pradesh on 9th. In association with it, rainfall was fairly widespread in coastal Andhra Pradesh and Telangana on 8th, in Maharashtra on 9th and in Vidarbha on 9th and 10th. Khammameth reported 8 cm on 8th, Ahmednagar 8 cm on 9th and Nandurbar (Maharashtra) 16 cm on 10th.

The trough of low pressure intensified near its western end and a depression formed in the east Arabian Sea off the south Kathiawar coast on 10th with its centre at 0830 hrs. IST on that day near Lat. 19.5°N and Long. 71.5°E. Moving in a northerly direction, the depression crossed the coast on 11th evening near Mahuva and remained practically stationary near Bhavnagar till 14th. Thereafter, it shifted towards south and emerged in the Arabian Sea off the south Kathiawar coast

as a deep depression on the morning of 15th. It intensified rapidly and became a cyclonic storm with centre about 100 kms southsouthwest of Veraval, the same evening. On the morning of 16th, it was centred near Lat. 20°N and Long. 68.5°E . Continuing to move in a westerly direction, it intensified into a severe cyclonic storm of small extent with a core of hurricane winds centred near Lat. 19.5°N and Long. 65.0°E on 17th morning. Still moving in a westerly direction, it was centred near Lat. 19.0°N and Long. 59.5°E on 18th morning. It struck the Kuria-Muria coast of Saudi Arabia about 200 kms southwest of Masirah, on the night of 18th-19th. In association with this storm, widespread or fairly widespread rain fell in Saurashtra, south Gujarat and the Konkan between 10th and 15th. A few heavy to very heavy falls were reported from Saurashtra between 12th and 15th, from south Gujarat on 12th and 13th and from the north Konkan on 13th and 14th. Some of the noteworthy amounts of rainfall were: Porbandar 21 cm and Dharampur (Gujarat) 13 cm on 12th; Dahanu 17 cm and Surat 12 cm on 13th; Veraval 10 cm on 14th and Rajkot 11 cm on 15th. These rains and squally winds caused considerable damage in and near Saurashtra. According to press reports, several houses collapsed, many human lives were lost and several hundred heads of cattle perished. Mahuva and Porbandar got completely isolated from the rest of Saurashtra due to floods. A 180-ton cargo vessel "Premasavai", laden with goods worth Rs. 40,000 and a few of the ferry boats and country craft were tossed by the squally winds on the stormy sea off the Kathiawar coast and perished in the waters.

This year, the monsoon was late in its withdrawal from the country. It withdrew from Jammu and Kashmir, Himachal Pradesh, the north Punjab (I) and west Rajasthan only on 8th October, about three weeks later than the normal time. It withdrew from east Rajasthan, the south Punjab (I) and Uttar Pradesh on 13th. With the westward movement of the severe cyclonic storm of the Arabian Sea, the monsoon rapidly withdrew from the rest of the country by 18th.

A trough in the easterlies moved across the south Peninsula between 18th and 20th and caused fairly widespread or local thundershowers in Kerala and local or scattered thundershowers in coastal Andhra Pradesh and in the Madras and Mysore States during that period. Palghat reported 8 cm of rain on 18th and Calingapatam 7 cm on 20th.

A low pressure area appeared over the southwest Bay of Bengal and Ceylon on 23rd. Moving westwards and weakening, it became unimportant by the 25th. Under its influence, thundershowers were nearly general in the Madras State between 22nd and 24th, in Kerala on 22nd and 23rd and in coastal Mysore on 23rd. Punalur recorded 7 cm of rain on 22nd.

A feeble cyclonic circulation appeared over northeast Madhya Pradesh and Bihar Plateau on 22nd evening. It shifted to Gangetic West Bengal and adjoining parts of Bihar on 23rd morning, to East Pakistan and adjoining West Bengal on 24th and became unimportant there by 25th. Under its influence, thundershowers were fairly widespread in Sub-Himalayan West Bengal on 22nd and 23rd and in Gangetic West Bengal and Assam on 23rd. Local thundershowers were also reported from Bihar on 22nd and 23rd and from Gangetic West Bengal and Assam on 24th.

The seasonal low became well marked over the southwest and the adjoining southeast Bay of Bengal on 26th. It intensified into a shallow depression on 27th with centre at 0830 hrs. IST about 100 kms northeast of Trincomalee. Moving northwards and intensifying at the same time, it lay as a depression centred at 0830 hrs. IST of 28th about 250 kms eastsoutheast of Madras. Then it took a northeasterly course, was centred about 150 kms to the southeast of Gopalpur on the morning of 29th and crossed the Sunderbans coast between Naokhali and Chittagong early next morning. It was centred near Aijal at 0830 hrs. IST on 30th October and filled up over Assam itself by 31st. In association with the formation and movement of this depression, fairly widespread rain or thundershowers occurred in the Madras State from 26th to 28th, in Kerala on 28th and 29th, in south Interior Mysore and Rayalaseema on 28th, in coastal Andhra Pradesh on 28th and 29th, in Orissa on 29th, in coastal West Bengal on 29th and 30th and in Assam on 30th. Some noteworthy amounts of rainfall were: Nagapattinam 14 cm on 27th and 8 cm on 28th; Madras 8 cm on 27th as well as on 28th; Cuddalore 9 cm on 27th; Nellore 13 cm and Palghat 10 cm on 28th; Salem 11 cm, Chandbali 10 cm and Gopalpur and Saugor Island 9 cm each on 29th and Haflong 24 cm, Silchar 10 cm and Imphal 8 cm on 30th.

A western disturbance was located as a marked upper air trough over West Pakistan and the adjoining areas of the Punjab (I) and of Rajasthan on 27th. It moved away through Kashmir and the adjoining Punjab hills by 30th. Under its influence, fairly widespread rain fell in Himachal Pradesh and the Punjab hills on 27th and 28th and in Jammu & Kashmir on 27th. Scattered rain was also reported from Rajasthan on 28th and 29th.

The rainfall for the month was in slight defect in Jammu and Kashmir and the Arabian Sea Islands, in moderate defect in Rayalaseema, in large defect in coastal and south Interior

Errata to M.W.R. October, 1959 (Asvina 9, Kartika 9, 1881 Saka)

Page No.	Station	Hour	Col.	For	Read	
<u>Table I - Division</u>						
421	3. Orissa		5	-0.5	+0.5	
421	12. Madras State		1	Madras	Madras State	
<u>Table II</u>						
423	Kanpur		3	0.4	-0.4	
424	Jodhpur		28	1	0	
425	Sagar		3	1.3	-1.3	
425	Dwarka		1	Not clear	Dwarka	
427	Shimoga		23	Blank	1	
428	Rangarh		28	1	0	
428	Foot note		-	Register not received	(R) Register not received	
429	Wallungchung Gola		1	Wallungchung Gila	Wallungchung Gola	
<u>Table III</u>						
430	Port Blair	2330	5	1000.4	1001.4	
432	Bhubaneshwar	1730	8	25.9	24.9	
432	Puri	0830	10	31.6	31.3	
434	Varanasi (Banaras) (Babatpur Aerodrome)	0530	4 to 28	Data of 0530 hrs. may be read for 0830 hrs.		
434	- do -	0830	4 to 28	Data of 0830 hrs. may be read for 0530 hrs.		
435	New Delhi (Palam Aerodrome)	0230	16	Blank	0	
437	Leh	0530	8	2.5	-2.5	
437	Leh	0530	13	1.8	1.8(a)	
437	Leh	0830	13	2.1(a)	2.1	
437	Leh	1730	6	-1.0	..	
437	Leh	1730	20	2	0	
437	Sriganganagar	0830	14	..	0	
441	Harnai	0830	12	-0	0	
441	Foot note	-	-	*Observations 21 days	Observations for 20 days	
441	Foot note	-	-	+ Observations 20 days	+ Observations for 21 days	
446	Fort Cochin	0830	1	Fort Cochin	Fort Cochin	
449	Bhojpur	0830	2	*0830	0830	
449	Bhojpur	1730	2	1730	*1730	
Page	Station	Time in I.S. T.	Height in km.	Entry under column	Existing entry	Correct entry
452	Agartala) Ahmedabad)		1.5	Ht. in km.	.5	1.5
453	Amritsar	1730*	4.5	v	3.9	5.9
461	Madras	1130	3.0	n	59	19
464	Tiruchirapali	0530	6.0	n V v D	Values printed	slightly up.
464	Trivandrum) Udaipur)		9.0	Ht. in km.	Left blank	9.0
465	Udaipur	2330	Surface	D	313	303
465	Vengurla	1730	3.0	n	12	22
466	Gauhati	1130	12.0	Ht. in km.	0	12.0
466	Gauhati	1730*	14.1	Ht. in km.	4.1	14.1

Mysore and Kerala and normal in Telangana, the Madras State and north Interior Mysore. It was in slight excess in the Bay Islands and coastal Andhra Pradesh, in moderate excess in the Punjab (I), west Rajasthan, east Madhya Pradesh, Maharashtra (including Marathwada) and Vidarbha and in large excess over the rest of the country outside Himachal Pradesh.

The mean maximum temperature was above normal in Jammu and Kashmir, below normal in West Bengal, Bihar Plains, east Uttar Pradesh, east Rajasthan, Gujarat and Saurashtra and Kutch and normal over the rest of the country outside Himachal Pradesh. The mean minimum temperature was above normal in Bihar Plains, Uttar Pradesh, the Punjab (I), Jammu and Kashmir, west Rajasthan, Madhya Pradesh, Gujarat, Saurashtra and Kutch, Vidarbha, Telangana and the Arabian Sea Islands and normal over the rest of the country outside Himachal Pradesh.

The mean relative humidity in the morning was above normal in Orissa, Bihar State, Uttar Pradesh, the Punjab (I), Rajasthan, Madhya Pradesh, Gujarat, Saurashtra and Kutch, Maharashtra (including Marathwada), Vidarbha, Telangana and north Interior Mysore, below normal in Jammu and Kashmir and normal over the rest of the country outside Himachal Pradesh.

The mean cloud amount in the morning was normal in Jammu and Kashmir, west Rajasthan, the Konkan, Maharashtra (including Marathwada), Telangana, Rayalaseema, coastal Mysore and Kerala and above normal elsewhere over the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column; similarly the heaviest rain fall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,

Dated the 1st. February, 1960.

C. RAMASWAMY,

for Director General of Observatories.

1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C.	Mean minimum temperature °C	Relative humidity %.		Cloud		1	2	3	4	5	Relative humidity %.		Cloud	
					0830 hrs. IST.	1730 hrs. IST.	0830 hrs. IST.	1730 hrs. IST.						0830 hrs. IST.	1730 hrs. IST.	0830 hrs. IST.	1730 hrs. IST.
Division									Division—contd.								
1. Assam (Including Manipur, Tripura).	268.3 +145.9	219	28.8 -1.0	22.0 +0.3	88 +4	85	5.6 +1.4	4.4	8. Rajasthan	23.9 +15.2	275	34.1 -0.4	21.0 +1.9	68 +16	42	1.2 +0.4	1.9
2. West Bengal	416.8 +296.2	346	29.9 -1.4	23.7 +0.8	83 +5	81	4.2 +1.3	4.4	9. Madhya Pradesh	81.6 +33.4	169	30.9 -0.4	20.5 +2.1	77 +12	63	3.2 +1.3	4.1
3. Orissa	258.8 +109.0	173	30.6 -0.9	23.7 -1.5	83 +6	79	4.7 +1.6	5.5	10. Bombay	159.4 +87.5	222	31.4 -1.2	21.7 +0.6	79 +8	63	3.2 -0.6	3.8
4. Bihar	239.5 +173.1	361	30.2 -0.7	22.1 +1.2	81 +9	78	4.1 +1.8	4.0	11. Andhra Pradesh	147.9 +7.3	105	31.8 -0.2	23.5 -0.8	79 +4	68	4.7 +0.8	5.2
5. Uttar Pradesh	91.6 +57.6	269	31.7 -0.9	21.3 +2.6	77 +11	65	2.5 +1.5	2.6	12. Madras	219.2 +6.1	103	32.1 +0.4	23.9 -0.6	80 +1	70	5.6 +1.2	6.0
6. Punjab (India) (Including Himachal Pr. desh and Delhi)*	17.2 +5.1	142	33.1 -0.6	20.2 +2.7	74 +16	56	0.9 +0.3	1.1	13. Mysore	66.8 -55.0	55	29.8 -0.2	20.6 +0.3	81 +4	60	5.0 +0.9	5.4
7. Jammu and Kashmir.	13.3 -3.9	77	20.4 +1.5	5.1 +3.1	60 -6	40	1.7 -0.3	2.1	14. Kerala	143.6 -147.4	49	29.7 0	24.1 +0.3	85 0	82	5.8 +0.6	6.2
Sub-Division									Sub-Division—contd.								
1. Bay Islands	397.2 +79.5	125	29.6 +0.8	23.9 +0.7	84 +3	87	6.5 +1.3	5.8	15. Madhya Pradesh (East).	100.7 +27.3	137	30.4 0	21.0 +2.3	80 +8	68	3.8 +1.3	4.5
2. Assam (Including Manipur, Tripura).	268.3 +145.9	219	28.8 -1.0	22.0 +0.3	88 +4	85	5.6 +1.4	4.4	17. Gujarat	141.3 +109.4	443	32.3 -2.6	22.1 +1.7	81 +12	59	2.8 +1.1	3.0
3. Sub-Himalayan West Bengal.	402.3 +256.5	276	28.2 -2.6	22.6 +0.7	84 +5	77	4.3 +2.3	3.9	18. Saurashtra and Kutch.	205.4 +191.9	1521	32.1 -1.9	22.8 +1.1	83 +12	64	2.6 +0.7	2.9
4. Gangetic West Bengal.	422.2 +311.1	380	30.4 -1.1	24.0 +0.8	82 +5	82	4.1 -1.1	4.5	19. Konkan	244.3 +109.4	181	30.5 -0.8	23.5 0	81 +1	78	3.9 +0.4	3.9
5. Orissa	258.8 +109.0	173	30.6 -0.9	23.7 +0.5	83 +6	79	4.7 +1.6	5.5	20. Maharashtra (Including Marathwada)	119.5 +37.7	146	30.9 -0.8	19.3 -0.2	74 +6	55	3.2 +0.1	4.5
6. Bihar Plateau	292.5 +218.2	394	30.2 -0.3	21.3 +1.0	81 +9	77	3.9 +1.4	4.2	21. Vidarbha	71.5 +21.1	142	31.9 -0.7	21.5 +1.6	78 +13	60	3.6 +1.2	4.4
7. Bihar Plains	204.2 +143.1	334	30.1 -1.1	23.0 +1.3	81 +8	79	4.1 +2.1	3.9	22. Coastal Andhra Pradesh.	233.7 +33.2	117	31.9 -0.2	24.6 +0.4	82 +5	76	5.3 +1.0	5.8
8. Uttar Pradesh (East).	101.9 +57.9	232	31.6 -1.1	22.2 +2.7	79 +10	68	3.1 +1.9	2.9	23. Telangana	59.8 0	100	31.3 -0.2	21.8 +1.5	77 +6	60	3.7 +0.6	4.0
9. Uttar Pradesh (West).	80.0 +57.3	352	31.8 -0.6	20.4 +2.5	75 +13	62	1.9 +1.1	2.1	24. Rayalaseema	64.3 -37.3	63	32.7 -0.3	23.3 +0.5	73 0	59	4.3 +0.3	5.3
10. Punjab (India) (Including Delhi).	17.2 +5.1	142	33.1 -0.6	20.2 +2.7	74 +16	56	0.9 +0.3	1.1	25. Madras	219.2 +6.1	103	32.1 +0.4	23.9 +0.6	80 +1	70	5.6 +1.2	6.0
11. Himachal Pradesh.	43.6 ..	..	29.1 ..	16.1 ..	92 ..	63	3.3 ..	2.2	26. Coastal Mysore	56.0 -96.2	37	30.4 -0.1	23.3 -0.1	85 +1	77	5.5 +0.7	5.4
12. Jammu Kashmir.	13.3 -3.9	77	20.4 +1.5	5.1 +3.1	60 -6	40	1.7 -0.3	2.1	27. Interior Mysore (North)	78.3 -3.5	96	30.9 -0.2	20.3 +0.2	77 +6	53	4.2 +1.0	5.2
13. Rajasthan (West)	5.8 +1.7	141	36.1 +0.5	21.9 +3.3	65 +13	35	0.7 +0.1	1.0	28. Interior Mysore (South)	60.6 -85.8	41	28.6 -0.1	19.9 +0.6	83 +4	61	5.9 +1.0	5.6
14. Rajasthan (East)	42.0 +286	313	32.6 -1.2	20.2 +0.8	71 +18	48	1.6 +0.5	2.6	29. Kerala	143.6 -147.4	49	29.7 0	24.1 +0.3	85 0	82	5.8 +0.6	6.2
15. Madhya Pradesh (West).	68.2 +37.7	224	31.3 -0.8	20.0 +2.0	76 +15	59	2.8 +1.3	3.7	30. Arabian Sea Islands.	144.5 -20.9	87	30.9 +1.0	25.1 +1.5	79 +1	76	5.5 +0.9	6.1

NOTE.— The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p.h.)			No. of observations									
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Bay Islands Mayabandar	0830	28	1011.5	1008.2	..	27.3	25.4	24.4	30.9	83	..	5.1	..	7.1	0	3	21	0	3	1	0	2	6	1	0	7	11
	1730	"	1008.8	1005.7	..	26.5	24.7	23.9	29.6	86	..	4.9	..	5.7	0	0	18	0	4	2	0	0	2	2	0	13	8
Long Island	0830	25	1010.4	1003.4	..	27.4	25.7	24.8	31.5	86	..	5.0	..	0.1	0	0	1	0	0	0	1	0	0	0	0	30	0
	1730	"	1007.7	1005.8	..	26.2	24.8	24.2	30.1	89	..	5.1	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Port Blair	0530	79	1009.9	1030.9	..	24.5	23.9	23.6	29.3	95	..	6.2	..	5.5	0	0	24	0	5	3	1	1	9	4	1	7	0
	0830	"	1011.6	1022.7	+0.6	27.4	25.3	24.3	30.3	84	+3	6.5	+1.3	8.0	0	1	25	0	4	6	1	2	9	4	0	5	0
Car Nicobar	1130	"	1009.8	1001.0	..	28.1	25.4	24.3	30.2	80	..	6.4	..	9.9	0	1	30	0	5	5	2	6	6	6	1	0	0
	1730	"	1009.0	1000.1	..	25.9	24.3	23.6	29.0	87	..	5.8	..	7.4	0	0	26	0	6	3	2	1	6	7	1	5	0
Nancowry	2330	"	1010.3	1000.4	..	24.8	24.1	23.7	29.5	93	..	4.9	..	6.3	0	0	24	1	4	4	1	2	6	6	0	7	0
	0830	10	1011.5	1010.3	..	27.5	25.3	24.3	30.4	83	..	6.2	..	4.7	0	0	25	0	3	5	2	0	9	5	0	6	1
Kondul	1730	"	1008.6	1007.5	..	26.1	24.5	23.9	29.4	89	..	5.4	..	1.3	0	0	9	0	1	3	1	1	1	2	0	22	0
	0830	26	1012.0	1009.1	..	27.1	25.1	24.2	30.2	86	..	6.0	..	1.2	0	0	4	0	0	0	0	0	3	1	0	27	0
Assam (Including Manipur, Tripura)	1730	"	1009.7	1006.8	..	26.4	24.7	23.9	29.8	86	..	6.6	..	3.3	0	0	9	0	0	0	1	2	4	1	1	22	0
	0830	8	1011.9	1011.0	..	27.0	24.9	23.8	29.8	83	..	6.7	..	2.9	0	0	17	0	4	3	10	0	0	0	0	14	0
Pasighat	1730	"	1009.3	1008.4	..	25.9	24.6	23.9	29.8	90	..	6.5	..	1.7	0	0	12	0	0	2	1		0	0	0	19	0
	0830	157	1013.1	995.3	..	24.1	21.6	20.2	23.5	80	..	5.8	..	7.9	0	0	25	8	1	3	0	0	1	1	11	6	0
Digboi	1730	"	1009.6	991.8	..	23.9	22.3	21.4	25.5	86	..	4.8	..	2.3	0	0	16	0	1	0	0	0	1	2	12	15	0
	0830	..	..	..	..	24.0	22.5	21.6	26.1	86	..	6.3	..	3.4	0	0	29	5	12	2	1	1	2	1	5	0	0
Dibrugarh	1730	..	..	..	..	25.4	23.4	21.9	26.9	81	..	5.6	..	3.9	0	0	27	4	10	4	2	0	5	1	1	0	0
	0830	106	1012.8	1000.7	-0.2	24.8	22.6	21.5	25.6	82	0	6.0	+1.8	2.0	0	0	20	7	2	9	0	1	0	1	0	11	0
Dibrugarh (Mohanbari Aerodrome).	1730	"	1009.2	997.2	..	24.9	22.7	22.1	25.7	85	..	4.1	..	1.3	0	0	9	3	2	3	0	0	1	0	0	22	0
	0230	111	1010.2	997.6	..	21.8	21.1	20.8	24.4	95	..	5.7	..	0.5	0	0	4	0	2	1	0	0	0	1	0	27	0
North Lakhimpur	0530	"	1011.4	998.5	..	21.1	20.6	20.3	23.8	96	..	6.2	..	1.2	0	0	6	0	5	0	0	0	1	0	0	25	0
	0830	"	1013.0	1000.3	..	24.5	22.4	21.5	25.5	83	..	6.1	..	3.3	0	0	17	0	10	6	0	0	1	0	0	14	0
Sibsagar	0830	"	1010.9	998.3	..	26.6	23.2	21.5	25.8	71	..	6.2	..	2.9	0	0	14	2	9	1	1	0	1	0	0	17	0
	1730	"	1009.6	997.1	..	24.7	23.0	22.3	26.8	87	..	5.1	..	0.8	0	0	3	0	1	1	0	0	0	0	0	28	0
Jorhat	2330	"	1011.2	998.4	..	22.1	21.4	21.1	25.1	94	..	5.5	..	0.7	0	0	3	0	3	0	0	0	0	0	0	28	0
	0830	102	1012.7	1001.1	..	24.8	22.8	21.8	26.6	84	..	5.6	..	4.1	0	0	28	10	2	6	4	1	1	1	3	3	0
Golaghat	1130	"	1011.0	999.4	..	27.2	23.5	21.6	26.2	73	..	5.6	..	6.0	0	0	29	2	3	8	6	4	5	1	0	2	0
	1730	"	1008.9	997.3	..	25.0	23.3	22.5	27.3	87	..	4.7	..	3.2	0	0	22	3	4	4	3	3	2	2	1	9	0
Gohpur	0830	97	1013.3	1002.1	+0.4	24.8	23.2	22.4	27.3	87	-1	7.0	+1.1	3.5	0	0	24	2	10	2	4	4	2	0	0	7	0
	1730	"	1008.4	998.1	..	26.2	23.9	22.7	27.8	82	..	5.3	..	4.9	0	0	17	3	5	1	1	5	2	0	0	14	0
Tezpur	0530	90	1010.7	1000.4	..	21.7	21.5	21.5	25.5	98	..	5.5	..	2.2	0	0	9	2	4	0	1	1	0	0	1	22	0
	0830	"	1012.6	1002.4	..	24.3	22.9	22.3	26.9	89	..	6.6	..	6.3	0	0	24	7	8	2	3	0	2	1	1	7	0
Majbat	1130	"	1010.7	1000.6	..	26.8	23.7	22.3	26.8	77	..	6.6	..	7.8	0	0	27	13	4	1	2	1	2	2	2	4	0
	1730	"	1008.8	998.7	..	24.6	23.1	22.4	27.2	88	..	4.6	..	2.7	0	0	11	4	2	1	2	1	0	0	1	20	0
Chaparmukh	0830	..	..	..	..	24.7	23.2	22.0	27.2	87	..	7.0	..	0.3	0	0	2	0	0	0	2	0	0	0	0	29	0
	1730	..	..	..	..	26.6	24.9	23.8	30.3	87	..	7.0(a)	..	0(a)	0	0	0	0	0	0	0	0	0	0	0	30	0
Tangla	0830	..	..	..	..	24.4	22.8	22.1	26.4	87	..	..	..	..	..	..	..	0	1	28	0	1	0	0	1	0	0
	1730	..	..	..	..	25.8	24.2	23.1	28.8	86	..	..	..	..	..	..	..	1	1	23	0	3	0	2	1	0	0
Gauhati	0830	79	1013.4	1003.4	-0.8	24.6	23.1	22.5	27.2	89	+7	5.4	+1.7	4.4	0	0	24	2	10	6	0	2	3	1	0	7	0
	1730	"	1009.7	1000.8	..	25.3	23.7	22.8	28.1	86	..	4.4	..	1.3	0	0	9	1	4	2	1	0	1	0	0	22	0
Gauhati	0230	78	1010.5	1001.5	..	22.5	22.0	21.7	26.1	96	..	5.2	..	1.4	0	0	9	0	3	4	1	1	0	0	0	22	0
	0530	"	1011.4	1002.3	..	21.9	21.5	21.1	25.3	96	..	5.8	..	2.0	0	0	13	1	2	9	0	0	0	0	1	18	0
Gauhati	0830	"	1013.2	1004.2	..	24.5	22.8	22.0	26.4	86	..	5.5	..	2.7	0	0	26	2	7	11	2	3	0	1	0	5	0
	1130	"	1011.5	1002.6	..	26.6	23.4	22.1	26.3	76	..	5.6	..	4.4	0	0	24	3	5	8	3	0	3	1	1	7	0
Gauhati	1730	"	1009.4	1000.4	..	25.3	23.6	22.7	27.8	86	..	4.6	..	1.3	0	0	8	1	2	5	0	0	0	0	0	23	0
	2330	"	1011.6	1002.6	..	22.9	22.2	21.8	26.3	94	..	4.6	..	1.1	0	0	7	0	1	4	1	0	1	0	0	24	0
Gauhati	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	15	11	0	1	1	2	0	1	0
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	5	5	0	0	1	1	1	18	0

Division and station	Hour of observation I.S.T.	Height of barometer above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Assam (Including Manipur, Tripura)— (Contd.) Gauhati (Bhorjor Aerodrome)	0230	54	1009.9	1003.6	..	22.9	22.4	22.0	26.6	92	..	5.1	..	2.0	0	0	7	0	4	3	0	0	0	0	0	0	24	0
	0530	..	1010.5	1004.3	..	22.5	22.0	21.7	26.1	96	..	6.2	..	2.3	0	0	12	1	8	1	0	1	1	0	0	0	19	0
	0830	..	1012.4	1006.2	..	25.1	23.7	22.4	28.1	85	..	6.1	..	4.3	0	0	22	1	14	3	0	0	2	1	1	9	0	
	1130	..	1010.8	1004.7	..	27.3	24.1	22.6	27.3	76	..	5.9	..	7.4	0	0	30	8	16	3	0	0	0	1	2	1	0	
	1730	..	1008.7	1002.6	..	25.5	23.8	22.9	28.2	86	..	5.4	..	3.1	0	0	16	1	7	2	0	2	1	1	2	15	0	
	2330	..	1011.0	1004.8	..	23.2	22.5	22.3	26.7	95	..	5.0	..	1.7	0	0	10	0	7	18	2	0	0	1	0	2	0	
Rangiya	0830	..	..	..	..	25.4	23.2	22.0	26.7	82	..	4.4	..	4.7	0	0	29	1	7	13	1	0	0	2	1	8	0
	1730	..	..	..	..	27.2	24.6	23.5	28.8	80	..	2.7	..	3.0	0	0	23	1	5	4	3	2	3	0	2	2	0
Goalpara	0830	38	1011.9	1007.5	..	24.5	23.0	22.2	26.9	88	..	6.1	..	3.5	0	0	29	0	15	4	3	2	3	0	2	2	0	
	1730	..	1007.8	1003.6	..	26.6	24.5	23.3	29.1	82	..	4.4	..	4.4	0	0	23	2	5	2	5	2	6	1	0	8	0	
Dhubri	0830	35	1013.0	1008.9	+0.6	24.8	23.6	23.1	28.1	90	+8	4.4	+1.4	2.6	0	2	21	1	16	0	3	2	0	0	1	8	0	
	1730	..	1009.3	1005.3	..	25.4	24.0	23.2	28.7	88	..	3.6	..	2.6	0	0	15	0	7	2	4	2	0	0	0	16	0	
Dhubri (Rupsi Aerodrome)	0530	36	1009.5	1005.4	..	22.0	21.5	21.2	25.2	96	..	4.5	..	2.8	0	0	11	1	3	5	2	0	0	0	0	20	0	
	0830	..	1011.4	1007.3	..	24.8	23.2	21.8	27.0	87	..	4.7	..	7.0	0	0	26	0	6	10	5	2	0	1	1	5	1	
	1130	..	1010.2	1006.1	..	26.9	24.0	22.6	27.5	78	..	5.2	..	7.8	0	0	26	1	2	13	4	4	1	1	0	5	0	
Tura	0830	370	1013.2	971.3	..	22.8	21.9	21.2	25.7	92	..	5.4	..	2.4	0	0	17	0	0	5	6	1	3	1	1	14	0	
	1730	..	1009.8	968.1	..	25.0	24.0	23.3	29.0	91	..	5.1	..	3.3	0	0	24	1	4	3	1	4	6	2	3	7	0	
Agartala	0230	16	1008.6	1006.8	..	23.3	22.8	22.5	27.3	95	..	3.5	..	5.0	0	0	18	1	3	3	7	3	0	1	0	13	0	
	0530	..	1009.1	1007.3	..	23.0	22.5	22.2	26.9	96	..	5.4	..	4.4	0	0	19	0	4	7	5	3	0	0	0	12	0	
	0830	..	1011.0	1009.2	..	26.1	24.1	23.2	28.2	85	..	5.7	..	7.8	0	0	29	3	6	6	9	5	0	0	0	2	0	
	1130	..	1009.6	1007.8	..	27.9	24.9	23.6	29.0	77	..	5.7	..	7.7	0	0	29	6	5	1	5	5	3	1	3	2	0	
	1730	..	1008.0	1006.2	..	25.7	24.0	23.3	28.5	87	..	5.4	..	5.5	0	1	21	3	6	4	3	5	1	0	0	9	0	
Kailashar (C.W.O.)	2330	..	1009.8	1008.0	..	23.6	23.0	22.6	27.7	95	..	4.6	..	2.0	0	0	13	0	0	0	1	2	0	1	2	0	22	0
	0530	29	1010.6	1007.3	..	22.7	22.2	21.9	26.3	96	..	6.4	..	1.5	0	0	9	2	3	0	0	1	2	0	1	3	10	0
	0830	..	1012.3	1009.0	..	25.7	23.9	23.0	28.2	85	..	6.0	..	3.7	0	0	21	1	5	1	3	5	2	1	3	6	0	
	1130	..	1010.7	1007.5	..	28.1	24.7	23.0	28.4	75	..	5.7	..	2.7	0	0	25	5	9	1	2	4	1	0	3	6	0	
	1730	..	1009.2	1005.9	..	26.1	24.4	23.8	29.3	87	..	5.3	..	1.7	0	0	9	2	2	0	2	1	1	0	1	22	0	
Silchar	0830	29	1012.5	1009.1	0	25.2	23.6	22.7	27.7	87	+5	5.3	+1.3	2.4	0	0	24	1	10	6	3	1	0	0	0	3	7	0
	1730	..	1008.9	1005.6	..	26.5	24.5	23.7	29.1	84	..	4.0	..	0.3	0	0	3	0	2	1	0	0	0	0	0	0	14	0
Silchar (Kumbhigram Aerodrome)	0530	97	1009.3	996.9	..	21.8	21.5	21.2	25.5	97	..	6.2	..	2.9	0	0	17	1	2	14	0	0	0	0	1	0	8	0
	0830	..	1010.9	999.8	..	24.9	23.1	22.1	26.6	88	..	6.0	..	3.9	0	0	23	0	3	16	3	0	0	1	0	8	0	
	1130	..	1009.6	998.3	..	27.5	24.2	22.6	27.4	75	..	5.4	..	3.3	0	0	20	1	1	10	2	1	4	1	0	11	0	
	1730	..	1007.2	996.2	..	25.9	23.8	22.5	27.8	84	..	5.0	..	1.9	0	0	14	2	2	2	0	0	1	7	0	17	0	
Imphal	0530	801	1013.2	923.9	..	18.9	18.6	18.3	21.3	97	..	7.6	..	0.2	0	0	2	0	0	1	0	0	1	0	0	29	0	
	0830	..	1013.8	925.1	..	21.3	19.6	18.7	21.6	85	..	6.9	..	1.0	0	0	8	0	0	3	2	1	0	0	0	23	0	
	1130	..	1011.1	923.7	..	24.1	20.8	18.7	22.1	72	..	6.2	..	5.3	0	0	22	1	0	0	2	2	5	1	2	19	0	
	1730	..	1009.8	922.0	..	22.0	20.1	19.0	22.1	84	..	5.4	..	2.0	0	2	12	0	0	0	2	2	5	1	2	19	0	
	2330	..	1012.6	923.7	..	19.4	18.9	18.6	21.4	95	..	5.6	..	0.6	0	0	4	1	2	0	0	0	0	0	1	0	27	0
Haïong	0830	682	1012.4	936.5	..	20.9	19.9	19.3	26.6	91	..	6.3	..	4.4	0	0	30	6	5	0	0	4	12	1	2	1	0	
	1730	..	1007.8	932.6	..	22.0	20.6	19.8	23.6	88	..	5.2	..	6.5	0	0	31	4	5	0	0	1	10	0	11	0	0	
Lumding	0830	149	1012.8	995.8	..	23.3	22.5	21.9	28.0	90	+3	6.3	..	1.3	0	0	13	0	0	1	7	2	0	1	2	18	0	
	1730	..	1008.2	992.2	..	25.6	23.8	23.7	26.6	86	..	5.2	..	4.5	0	0	2	0	1	0	1	0	0	0	0	29	0	
Sub-Himalayan West Bengal																												
Cooch Behar (C.W.O.)	0830	43	1011.9	1007.1	..	24.9	23.0	21.9	26.5	84	..	4.6	..	9.7	0	3	26	0	7	18	2	0	0	1	0	2	1	
	1130	..	1010.6	1005.7	..	26.9	23.7	22.2	26.7	76	..	5.5	..	10.4	0	6	23	1	6	14	3	1	1	1	0	2	2	
	1730	..	1008.4	1003.6	..	25.4	23.4	22.3	27.2	84	..	3.9	..	3.3	0	2	4	0	0	6	0	0	0	0	0	24	0	
Jalpaiguri	0830	83	1012.5	1002.3	+0.3	23.8	22.2	21.3	25.5	86	+3	3.9	+1.6	6.4	0	1	28	11	5	10	1	0	1	1	0	2	0	
	1730	..	1008.7	999.3	..	26.5	23.3	21.6	26.2	75	..	3.7	..	7.3	0	2	24	3	3	9	3	1	6	1	0	5	0	
Bagdogra	0230	131	1009.4	994.5	..	22.8	22.0	21.6	25.8	93	..	5.8	..	4.6	0	0	18	5	7	5	0	0	1	0	0	13	0	
	0530	..	1009.7	994.7	..	21.7	21.2	20.9	23.7	95	..	5.5	..	4.9														

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—October, 1959 (ASVINA 9—KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Ms an wind speed km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in ft. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Orissa—(Contd.) Gopalpur.	0530	17	1008.0	1006.1	..	24.7	23.9	23.5	29.0	94	..	5.0	..	6.9	0	2	23	7	1	1	1	0	3	0	12	6	0	
	0830	..	1010.3	1008.4	-0.7	26.8	24.9	24.0	30.0	86	+8	4.7	+1.9	9.0	0	1	26	14	2	1	0	0	2	1	7	4	0	
	1130	..	1009.1	1007.2	..	29.3	25.7	24.0	30.1	74	..	4.8	..	11.4	0	1	30	8	3	5	4	5	2	1	3	0	0	
	1730	..	1007.5	1005.2	..	27.5	25.3	24.6	30.4	81	..	5.5	..	14.2	0	8	22	1	2	10	5	8	3	1	0	1	0	
	2330	..	1009.0	1007.1	..	26.0	24.9	24.4	30.5	91	..	4.2	..	7.4	0	5	13	2	2	3	2	2	4	0	3	13	0	
Koraput . . .	0830	913	1512.7	911.0	..	22.1	20.3	18.9	22.4	81	..	3.2	..	5.5	0	0	31	1	8	4	3	3	8	2	2	0	0	
	1730	..	1489.1	908.3	..	23.3	19.9	17.9	20.5	72	..	4.3	..	8.4	0	0	31	6	7	6	0	0	2	4	6	0	0	
Titlagarh . . .	0830	211	1010.0	986.4	..	26.4	23.9	22.6	27.6	80	..	3.1	..	2.7	0	0	25	5	10	0	6	1	2	0	1	5	0	
	1730	..	1006.2	982.8	..	29.0	25.5	23.6	29.8	75	..	3.5	..	3.1	0	0	30	8	13	0	3	4	1	0	1	1	0	
Bolangir . . .	0830	190	1008.8	987.4	..	25.4	23.6	22.2	26.4	81	..	5.1	..	3.8	0	0	31	8	8	1	2	5	6	0	1	0	0	
	1730	..	1006.4	985.1	..	27.7	23.8	21.2	27.7	71	..	5.3	..	7.1	0	0	31	9	8	1	2	5	5	0	1	0	0	
Angul	0830	139	1010.5	994.8	-0.7	25.5	23.5	22.7	28.1	84	+7	5.0	+1.5	5.9	0	1	28	3	2	6	2	2	3	7	4	2	0	
	1730	..	1007.1	991.5	..	27.9	24.1	23.5	26.8	73	..	4.6	..	6.2	0	1	29	4	1	4	7	4	3	4	3	1	0	
Keonjhar	0830	463	1010.2	955.8	..	24.4	21.7	20.2	23.7	79	..	4.1	..	5.4	0	0	24	2	3	2	3	3	4	4	3	7	0	
	1730	..	1007.3	953.2	..	25.3	22.1	20.3	24.0	75	..	5.1	..	3.2	0	0	27	4	3	4	5	2	4	4	1	4	0	
Sambalpur . . .	0830	148	1010.1	993.4	-1.5	26.9	23.9	22.4	27.3	77	+1	4.8	+2.1	2.9	0	0	21	2	4	3	2	3	4	2	1	10	0	
	1730	..	1006.5	990.0	..	27.7	23.8	22.0	26.4	72	..	5.0	..	2.1	0	0	13	0	4	3	2	1	1	1	1	18	0	
Jharsuguda . . .	0230	230	1007.8	981.7	..	22.6	22.1	21.7	26.1	94	..	3.2	..	4.4	0	1	14	6	3	1	2	0	2	1	0	16	0	
	0530	..	1008.3	982.2	..	22.1	21.7	21.4	25.9	96	..	4.4	..	5.7	0	1	25	7	9	1	2	4	1	2	0	5	0	
	0830	..	1010.3	984.3	..	25.2	23.1	21.9	26.4	82	..	4.7	..	7.2	0	2	26	7	8	2	3	3	3	2	0	3	0	
	1130	..	1008.8	983.2	..	28.5	24.1	21.8	26.3	68	..	4.6	..	7.1	0	0	25	2	7	4	2	2	3	2	3	6	0	
	1730	..	1006.7	980.9	..	26.9	23.7	22.0	26.3	75	..	4.8	..	3.5	0	0	16	0	3	2	2	1	4	4	0	15	0	
Bihar Plateau Jamshedpur . . .	2330	..	1009.1	983.1	..	23.6	22.6	22.0	26.4	91	..	3.4	..	3.0	0	0	14	2	4	2	1	1	2	2	0	17	0	
	0830	129	1010.2	995.6	-1.4	25.9	23.8	22.9	27.7	84	+9	4.2	+1.1	7.0	0	1	26	0	2	8	2	0	4	7	4	4	0	
	1730	..	1006.9	992.5	..	27.0	24.2	22.6	27.9	74	..	4.5	..	5.9	0	1	23	1	1	8	8	1	2	2	1	7	0	
	Jamshedpur (P.B.O.) .	0530	145	1008.2	991.6	..	23.4	22.7	22.4	27.0	94	..	4.5	..	3.5	0	1	15	1	5	0	0	1	1	4	4	15	0
	0830	..	1009.9	993.5	..	26.3	23.8	22.4	27.5	79	..	4.9	..	6.7	0	1	28	1	8	2	1	1	6	7	3	2	0	
Chaibasa	1130	..	1008.8	992.6	..	29.1	24.2	21.9	26.2	66	..	5.5	..	8.0	0	1	30	2	3	5	5	2	6	5	3	0	0	
	1730	..	1006.8	990.3	..	27.9	23.8	21.8	26.1	70	..	5.4	..	7.0	0	1	24	2	5	5	4	4	1	1	3	6	0	
	2330	..	1009.3	992.8	..	24.6	23.2	22.4	27.3	88	..	3.9	..	3.5	0	0	18	1	6	4	2	2	0	2	1	13	0	
	0830	226	1010.0	984.5	-1.3	25.6	23.3	22.3	26.9	82	+6	4.1	+1.3	1.9	0	0	16	0	7	0	2	0	5	2	0	15	0	
	1730	..	1007.0	981.4	..	26.3	23.8	22.4	27.5	80	..	5.0	..	1.1	0	0	8	0	2	0	3	0	2	1	0	23	0	
Ranchi	0830	655	1009.3	937.3	-1.4	23.5	21.1	20.1	22.7	81	+15	3.8	+1.0	0.8	0	0	7	0	0	2	0	3	1	0	1	24	0	
	1730	..	1006.7	934.8	..	24.2	21.4	19.9	23.5	78	..	3.7	..	0.9	0	0	5	0	0	4	0	0	0	0	0	26	1	
Ranchi (C.W.O.) . .	0530	652	1008.5	935.8	..	19.9	19.2	18.9	21.7	94	..	4.2	..	5.4	0	1	15	4	2	2	1	2	3	1	1	15	0	
	0830	..	1009.4	937.7	..	22.9	20.8	19.7	23.0	82	..	4.1	..	8.3	0	1	21	4	3	5	1	3	3	0	3	9	0	
	1130	..	1008.9	937.6	..	25.5	21.5	19.5	22.4	69	..	5.5	..	13.1	0	1	30	11	1	5	5	3	3	1	2	0	0	
Daltonganj	1730	..	1006.4	934.9	..	24.1	21.5	20.1	23.8	79	..	4.9	..	5.9	0	1	28	10	3	6	1	4	2	0	3	2	0	
	0830	221	1010.1	985.3	-1.5	26.6	23.3	21.6	25.3	74	-2	3.0	+1.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hazaribagh	1730	..	1007.0	939.7	..	24.4	21.6	20.2	23.8	78	..	3.9	..	5.0	0	1	19	4	0	4	3	3	1	0	5	11	0	
	0830	257	1010.1	981.1	..	25.7	23.6	22.6	27.3	82	..	4.8	..	4.1	0	0	28	2	2	13	2	2	1	5	1	3	0	
Dumka	1730	..	1007.1	978.2	..	26.0	23.6	22.4	27.2	81	..	4.2	..	2.0	0	0	13	0	4	3	0	5	1	0	0	15	0	
	0830	149	1010.4	993.5	-1.4	26.1	24.1	23.2	28.7	84	+12	4.9	+2.8	3.0	0	0	25	0	3	4	9	5	1	1	2	6	0	
Bihar Plains Purnea	1730	..	1007.6	990.5	..	25.6	23.7	22.3	27.7	80	..	4.0	..	2.0	0	0	15	0	2	4	5	3	1	0	0	16	0	
	0830	38	1011.5	1007.2	-0.3	26.2	24.0	23.0	28.0	83	+3	4.4	+2.2	4.5	0	0	27	0	2	17	3	1	3	0	1	4	0	
Forbesganj	1730	..	1007.9	1003.6	..	26.3	24.1	23.1	28.1	83	..	3.7	..	1.7	0	0	8	0	2	6	0	0	0	0	0	23	0	
	0830	61	1011.4	1004.5	..	25.8	23.5	22.5	27.2	83	..	4.4	..	5.4	0	1	26	0	0	20	0	2	1	3	1	4	0	
Darbhanga	1730	..	1007.8	1001.0	..	27.1	24.3	23.0	28.2	79	..	3.6	..	3.4	0	0	19	1	2	9	0	1	0	6	0	12	0	
	0830	49	1010.3	1004.6	-1.4	26.1	23.6	22.3	27.1	80	+9	4.7	+2.8	2.2	0	0	28	0	5	13	5	1	1	0	3	3	0	
Motihari	1730	..	1007.8	100																								

Division and station	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations											
			At mean sea level or height in g.p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Bihar Plains—(Contd.)	0830	60	1009.9	1003.1	..	26.5	24.3	23.3	28.5	83	..	4.0	..	9.8	0	1	25	0	0	11	9	2	2	0	2	5	0	0
Patna (Aerodrome)	1130	"	1009.3	1902.6	..	28.4	24.9	23.1	28.7	74	..	5.3	..	12.7	0	4	25	1	2	10	6	4	0	2	2	2	2	2
—(Contd.)	1730	"	1006.7	1000.0	..	27.5	24.6	23.1	29.9	78	..	4.1	..	4.9	0	2	8	0	1	5	2	1	0	1	0	21	0	0
	2330	52	1009.8	1003.9	..	25.8	24.3	23.7	28.4	89	..	2.3	..	4.1	0	2	5	0	0	5	1	0	1	0	0	24	0	0
Dehri	0830	107	1009.8	997.8	..	26.3	24.1	22.9	28.1	82	..	3.6	..	3.4	0	0	31	0	2	4	9	6	8	1	0	0	1	0
	1730	"	1006.8	994.1	..	28.2	24.3	22.3	27.3	72	..	3.0	..	4.4	0	0	31	3	10	7	1	0	1	8	1	0	0	0
Gaya	0230	116	1008.3	955.0	..	24.0	23.2	22.7	27.7	93	..	2.9	..	7.1	0	4	13	0	1	6	4	2	4	0	0	14	0	0
	0530	"	1008.7	995.4	..	23.4	22.8	22.4	27.3	95	..	3.9	..	6.6	0	2	18	0	0	11	2	3	4	0	0	11	0	0
	0830	"	1010.7	997.5	-0.7	26.4	24.0	22.7	27.9	80	+12	4.1	+2.2	7.7	0	1	26	0	0	10	4	2	7	2	2	4	0	0
	1130	"	1009.7	996.6	..	29.3	24.5	22.0	26.9	66	..	4.3	..	10.7	0	4	25	1	2	12	1	1	1	3	7	2	1	0
	1730	"	1007.2	994.1	..	27.4	24.0	22.2	27.1	74	..	4.2	..	9.4	1	1	25	1	4	10	3	1	1	0	7	4	0	0
	2330	"	1009.6	996.3	..	24.4	23.5	22.9	28.3	92	..	2.9	..	6.9	0	1	19	0	0	6	4	3	6	1	0	11	0	0
Jamui	0830	82	1010.5	1000.9	..	25.3	24.1	23.5	29.1	90	..	4.5	..	5.2	0	0	26	0	1	17	4	0	1	1	2	5	0	0
	1730	"	1007.0	997.8	..	27.0	25.0	23.9	30.1	82	..	3.4	..	3.5	0	0	18	0	0	9	2	1	0	2	4	13	0	0
Bhagalpur	0530	49	1009.2	1003.6	..	23.8	23.4	23.0	29.4	97	..	4.6	..	7.8	0	4	18	0	0	9	6	2	3	0	2	9	0	0
	0830	"	1011.1	1005.5	..	26.3	24.4	23.5	29.2	85	..	5.0	..	9.3	0	5	20	2	0	10	8	1	1	1	2	6	0	0
	1130	"	1010.2	1004.7	..	28.0	25.0	23.5	29.2	77	..	5.7	..	9.8	0	4	26	0	1	13	7	1	2	3	3	1	0	0
	1730	"	1007.6	1002.0	..	27.0	24.7	23.5	29.2	82	..	4.6	..	8.2	0	3	18	0	4	7	6	1	1	1	1	10	0	0
	2330	"	1009.8	1004.3	..	24.6	23.8	23.3	28.8	93	..	2.6	..	7.3	0	4	14	0	0	7	5	5	1	0	0	13	0	0
Sabour	0830	37	1011.0	1006.7	-0.8	26.1	24.4	23.4	29.3	85	+9	4.7	+2.1	7.1	0	1	30	1	1	11	4	0	8	3	3	0	0	0
	1730	"	1007.4	1003.1	..	27.1	24.5	23.3	29.4	81	..	5.0	..	5.7	0	3	18	0	2	8	5	0	2	3	1	10	0	0
Uttar Pradesh (East)	0830	110	1010.9	998.4	..	25.3	23.1	22.4	26.6	84	+8	3.0	+1.6	2.3	0	0	20	0	3	13	0	0	0	1	3	11	0	0
Gonla	1730	"	1007.2	995.1	..	27.5	23.6	21.9	26.0	75	..	2.2	..	1.0	0	0	6	0	1	5	0	0	0	0	0	25	0	0
Natauwa	0830	99	1011.2	999.9	..	24.7	23.4	22.1	28.0	86	..	3.5	..	4.1	0	0	26	4	3	8	9	1	0	0	1	5	0	0
	1730	"	1007.7	996.5	..	26.7	23.8	22.5	27.4	79	..	2.1	..	2.5	0	0	14	4	2	2	3	2	0	1	0	17	0	0
Gorakhpur	0830	77	1011.3	1002.3	-0.3	27.2	23.8	21.9	25.5	74	-1	5.0	+3.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	1007.7	999.0	..	28.0	24.4	22.7	27.6	73	..	3.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorakhpur (P.B.O)	0230	78	1008.3	999.4	..	24.9	23.4	22.7	28.0	88	..	2.5	..	4.1	0	0	21	2	12	3	0	0	0	2	2	10	0	0
	0530	"	1008.6	999.6	..	24.3	23.0	22.4	26.7	89	..	2.9	..	4.3	0	0	20	3	10	1	1	0	2	2	1	11	0	0
	1130	"	1010.0	1001.2	..	28.7	24.4	22.4	27.8	70	..	5.1	..	6.3	0	0	29	1	9	6	2	6	3	0	2	2	0	0
	2330	"	1009.5	1000.6	..	25.3	23.7	22.9	27.3	87	..	2.0	..	3.5	0	0	20	0	11	5	0	1	3	0	0	11	0	0
Azamgarh	0830	78	1009.9	1001.0	..	25.8	24.0	22.9	28.2	86	..	3.4	..	..	0	0	31	0	0	30	0	0	0	1	0	0	0	0
	1730	"	1006.5	997.8	..	27.0	24.5	23.3	29.1	81	..	3.0	..	..	0	0	14	1	1	11	0	0	0	1	0	17	0	0
Ballia	0830	64	1010.2	1003.1	..	24.7	23.4	22.9	27.1	89	..	3.0	..	5.1	0	0	21	0	7	3	8	0	2	1	0	10	0	0
	1730	"	1008.2	1001.1	..	23.3	24.8	23.4	28.2	75	..	3.3	..	5.4	0	0	20	0	6	5	5	0	0	0	4	11	0	0
Varanasi (Banaras)	0830	76	1009.8	1001.2	-1.6	26.3	24.2	22.4	27.8	84	+15	3.4	+1.7	3.3	0	1	14	1	3	7	1	1	2	0	0	16	0	0
	1730	"	1007.1	998.7	..	28.4	25.0	23.9	29.0	76	..	3.4	..	2.1	0	1	6	0	6	1	0	0	0	0	0	24	0	0
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1011.4	1001.6	..	25.6	23.9	23.3	28.3	87	..	3.7	..	8.9	0	1	27	0	6	9	2	3	3	4	1	3	0	0
	0830	"	1009.5	999.7	..	22.7	22.6	22.4	27.1	99	..	3.1	..	5.6	0	1	17	0	6	6	1	1	3	1	0	13	0	0
	1130	"	1010.6	1001.0	..	29.0	25.3	23.6	29.3	73	..	3.7	..	11.4	0	3	27	0	8	6	2	2	1	7	4	1	0	0
	1730	"	1008.2	998.7	..	27.6	24.8	23.4	29.4	79	..	3.1	..	8.0	0	1	27	2	8	5	1	0	1	9	2	3	0	0
	2330	"	1010.3	1000.5	..	23.9	23.4	23.2	28.2	95	..	2.0	..	7.0	0	2	23	0	8	8	1	3	2	2	1	6	0	0
Allahabad (Bamrauli)	0230	98	1008.0	996.8	..	23.5	22.3	21.4	25.9	90	..	2.6	..	2.3	0	0	14	1	6	4	0	0	1	2	0	17	0	0
	0530	"	1008.4	997.0	..	22.9	22.1	21.7	25.7	93	..	3.0	..	3.4	0	0	20	3	7	3	1	0	3	3	0	11	0	0
	0830	"	1010.1	999.1	-1.2	26.1	23.4	22.1	26.4	79	+12	3.6	+1.9	6.1	0	0	28	1	8	6	3	2	2	5	1	3	0	0
	1130	"	1009.7	998.7	..	29.6	24.4	21.7	25.8	67	..	3.9	..	6.2	0	0	30	1	4	8	2	2	5	6	2	1	0	0
	1730	"	1007.0	995.9	..	28.3	24.0	21.8	26.0	68	..	3.2	..	4.5	0	1	19	3	10	2	0	0	3	1	1	11	0	0
	2330	"	1009.1	998.0	..	24.2	22.6	21.8	25.9	87	..	2.4	..	3.3	0	0	19	1	6	3	2	1	5					

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9, — KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km.p.h.)			No. of observations										
			At mean sea level height in g. p. m. of the nearest standard Isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		61 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Uttar Pradesh (East) —Contd. Kanpur (Aerodrome)—Contd.	0830	126	1010.3	996.0	..	25.7	22.8	21.4	25.5	78	..	2.5	..	..	0	0	25	0	10	4	0	4	5	2	0	6	0
	1130	"	1009.8	995.8	..	30.2	23.7	20.2	23.9	57	..	3.2	..	..	0	2	28	1	10	5	2	1	4	6	1	1	0
	1730	"	1006.9	992.7	..	29.4	23.1	29.8	23.0	58	..	3.0	..	..	0	1	25	5	8	1	1	0	3	7	1	5	0
	2330	"	1009.4	995.0	..	24.3	21.9	20.6	24.1	80	..	1.8	..	..	0	2	17	3	6	3	2	0	2	3	0	12	0
Lucknow	0830	111	1011.2	998.6	-0.2	25.3	22.7	21.2	25.0	79	+10	2.1	+1.1	3.1	0	0	23	1	0	17	0	0	1	4	0	8	0	
	1730	"	1007.6	995.1	..	28.7	23.5	21.8	24.4	64	..	2.5	..	3.1	0	0	23	0	0	14	0	1	0	8	0	8	0	
Lucknow (Amausi Aerodrome)	0230	128	1008.3	993.7	..	22.1	21.1	20.5	24.1	91	..	2.4	..	5.2	0	1	17	0	7	4	1	2	2	2	0	13	0	
	0530	"	1008.5	993.8	..	21.3	20.7	20.3	23.4	94	..	2.5	..	4.5	0	0	17	0	10	3	0	0	1	2	1	14	0	
	0830	"	1010.2	995.7	-1.1	25.4	22.7	21.2	25.5	78	+21	2.6	+1.6	9.9	0	1	25	0	6	9	1	2	2	5	1	5	0	
	1130	"	1009.7	995.6	..	29.5	23.4	20.3	23.7	60	..	3.3	..	12.4	0	2	27	1	6	8	2	0	3	4	5	2	0	
	1730	"	1006.9	992.4	..	27.6	22.9	20.3	23.8	65	..	3.0	..	6.3	0	0	22	2	6	6	4	0	0	1	3	9	0	
Hardoi	0830	142	1010.4	994.2	..	25.1	22.1	20.6	23.9	76	..	2.2	..	4.8	0	0	28	1	0	11	5	3	2	6	0	3	0	
	1730	"	1006.7	990.8	..	29.4	23.5	20.5	24.9	59	..	2.1	..	3.9	0	0	22	8	3	6	1	0	0	1	3	9	0	
Lakhimpur Kheri	0830	147	1011.0	994.2	..	23.8	22.5	21.8	26.1	89	..	2.3	..	0.8	0	0	5	0	0	5	0	0	0	0	0	0	26	0
	1730	"	1006.5	990.0	..	28.1	23.9	21.8	26.1	70	..	1.8	..	0.6	0	0	5	0	0	4	0	0	0	1	0	26	0	
Bahraich	0830	124	1010.5	996.6	-0.4	25.9	23.3	21.9	26.8	79	+6	3.3	+2.3	7.8	0	0	31	2	0	22	0	1	1	3	2	0	0	
	1730	"	1007.9	993.9	..	27.5	23.5	21.4	26.0	69	..	3.1	..	4.9	0	0	25	0	0	14	0	0	1	8	2	6	0	
Uttar Pradesh (West) Orai	0830	141	1011.6	995.8	..	28.6	24.3	22.1	27.2	70	..	2.3	..	2.6	0	0	24	1	1	0	2	0	1	1	18	7	0	
	1730	"	1007.3	991.4	..	30.2	24.1	20.8	25.0	61	..	2.5	..	3.6	0	0	31	5	8	1	4	3	1	1	8	0	0	
Jhansi	0830	251	1010.5	982.0	-1.5	24.6	21.7	20.1	23.9	78	+23	2.1	+1.1	1.0	0	0	10	0	1	5	0	2	0	2	0	21	0	
	1730	"	1007.3	979.5	..	29.8	23.7	20.3	24.3	57	..	1.8	..	0.8	0	0	8	0	0	7	0	1	0	0	0	23	0	
Agra	0830	169	1010.8	991.7	-0.5	25.7	21.8	19.8	22.7	70	+18	1.3	+0.5	0.4	0	0	4	0	2	0	0	2	0	0	0	27	0	
	1730	"	1007.3	988.5	..	30.2	22.5	17.7	20.5	50	..	0.9	..	1.3	0	0	6	0	5	0	0	0	0	0	1	25	0	
Agra (Aerodrome)	0530	169	1009.2	989.6	..	21.1	19.5	18.6	21.3	87	..	1.7	..	..	0	0	9	0	2	2	1	1	1	2	0	22	0
	0830	"	1010.6	991.3	..	25.3	21.8	19.8	22.5	73	..	1.8	..	..	0	0	23	1	4	5	2	3	4	3	1	8	0
	1130	"	1010.2	991.1	..	29.6	22.8	18.3	20.9	50	..	2.2	..	..	0	3	25	3	5	5	1	3	1	5	5	3	0
	1730	"	1007.1	988.1	..	29.7	22.2	17.7	20.2	49	..	1.8	..	..	0	1	27	5	5	5	1	0	3	3	6	3	0
	2330	"	1009.5	990.4	..	23.4	20.3	18.5	21.3	75	..	0.8	..	..	0	0	10	0	3	4	1	0	2	0	0	21	0
Mainpuri	0830	157	1009.9	992.0	-1.2	25.9	22.4	20.6	23.9	73	+11	1.7	+0.7	0.7	0	0	7	0	0	3	1	0	0	3	0	0	24	0
	1730	"	1006.1	988.7	..	30.6	24.7	21.5	26.4	60	..	1.6	..	0.3	0	0	3	0	0	2	0	0	0	1	0	28	0	
Aligarh	0830	187	1010.6	989.4	..	25.0	21.5	19.4	22.5	72	+21	1.4	+0.9	2.1	0	0	18	0	0	7	0	4	0	6	1	13	0	
	1730	"	1007.3	986.4	..	29.7	22.4	18.1	20.9	51	..	2.3	..	1.9	0	0	17	4	1	5	0	1	0	6	0	14	0	
Bareilly	0830	173	1010.7	990.9	-0.6	25.3	22.6	21.3	25.7	78	+5	1.8	+0.9	1.5	0	0	13	0	1	8	2	0	0	1	0	3	21	0
	1730	"	1006.5	987.1	..	27.4	22.9	20.4	24.9	66	..	2.7	..	1.5	0	0	10	1	0	5	0	0	1	3	0	8	0	
Bareilly (P.B.O.)	0230	172	1008.4	988.2	..	23.4	21.5	20.7	23.9	85	..	1.6	..	4.6	0	0	23	0	2	13	3	1	1	3	0	12	0	
	0530	"	1008.7	989.0	..	22.7	21.2	20.5	24.3	87	..	2.2	..	4.4	0	0	19	1	1	13	1	0	0	5	5	5	0	
	1130	"	1010.0	990.6	..	28.3	23.5	21.6	25.3	69	..	2.6	..	5.5	0	0	26	1	0	9	6	0	0	5	1	11	0	
	2330	"	1009.2	989.5	..	24.2	21.7	20.4	23.9	80	..	1.5	..	5.0	0	0	20	0	2	8	7	1	0	1	1	20	0	
Meerut	0830	222	1011.1	985.9	0	24.9	21.5	19.8	23.5	73	+6	0.9	+0.4	2.1	0	0	11	0	1	10	0	0	0	0	2	6	0	
Najibabad	0830	270	1011.1	980.4	..	22.9	21.1	19.9	23.7	84	..	1.7	..	3.6	0	0	25	0	12	3	8	0	0	0	0	11	7	0
	1730	"	1007.8	977.7	..	28.2	23.5	21.2	25.3	67	..	0.7	..	2.5	0	0	24	0	4	0	9	0	0	0	0	2	29	0
Roorkee	0830	274	1010.8	979.8	-0.6	23.5	21.4	20.2	23.2	82	+10	2.9	+2.3	0.2	0	0	2	0	0	0	0	0	0	0	0	2	29	0
	1730	"	1007.2	976.6	..	27.8	24.4	22.7	27.9	75	..	2.7	..	0.2	0	0	2	0	0	0	0	0	0	1	2	8	0	
Dehra Dun	0530	682	1010.2	933.7	..	18.6	17.2	16.3	18.5	86	..	2.9	..	5.3	0	1	22	11	3	0	0	1	0	0	0	22	0	
	0830	"	1011.2	935.4	-0.2	21.9	19.1	17.3	19.6	77	+9	2.9	+1.9	1.1	0	0	9	5	3	0	0	1	0	0	0	4	18	0
	1130	"	1010.6	935.5	..	22.8	20.6	18.1	21.0	68	..	3.3	..	5.7	0	0	28	1	1	1	8	6	6	4	1	3	0	
	1730	"	1007.5	932.6	..	24.2	21.2	19.5	22.4	75	..	2.7	..	1.3	0	0	13	3	1	0	2	1	0	2	1	15	0	
Punjab (India) (Including Delhi) New Delhi	0230	216	1009.0	984.3	..	22.7	19.9	18.0	21.1	75	..	0.7	..	3.3	0	0	16	0	1	1	7	2	0	3	2	15	0	
	0530	"	1009.3	984.5	..	21.7	19.2	17.5	20.2	78	..	0.6	..	3.0	0	0	16	0	1	3	5	3	0	2	2	15	0	
	0830	"	1010.7	986.1	-0.6	25.2	20.4	17.3	19.9</																			

Division and station	Hour of observation I. S. T.	Height of barometer castern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in f.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Punjab (India) including Delhi—Contd. New Delhi Palam (Aerodrome)—Contd.	0830	233	1010.6	984.2	..	24.8	21.2	19.1	24.1	72	..	1.2	..	..	0	1	22	1	1	4	4	3	7	2	1	8	0
	1130	"	1010.0	984.1	..	30.4	23.5	19.3	23.5	55	..	1.7	..	..	0	4	26	1	5	2	3	4	3	5	7	1	0
	1430	"	1007.5	982.0	..	31.6	23.1	18.2	21.2	49	..	2.3	..	..	0	4	26	5	3	3	1	3	2	4	9	1	0
	1730	"	1006.9	981.0	..	30.2	22.0	16.8	22.1	49	..	1.8	..	..	0	1	30	5	4	3	2	2	2	2	11	0	0
	2030	"	1008.5	982.3	..	26.3	21.1	17.9	20.3	63	..	0.8	..	..	0	1	23	3	4	5	3	1	1	3	4	7	0
	2330	"	1009.2	982.9	..	24.3	20.5	18.3	21.1	70	..	0.3	..	..	0	0	21	1	0	12	4	1	0	2	1	10	0
Hisar	0530	221	1009.3	983.8	..	20.5	18.9	17.8	20.8	85	..	0.3	..	4.0	0	0	30	1	1	0	14	5	6	1	2	1	0
	0830	"	1010.3	985.4	-0.9	24.0	20.3	18.4	20.9	72	+18	0.7	+0.1	3.0	0	0	17	1	0	1	4	6	5	0	0	14	0
	1130	"	1010.1	985.6	..	31.8	23.4	18.7	21.9	47	..	0.7	..	2.9	0	0	23	1	2	1	7	0	5	4	3	8	0
	1730	"	1007.0	982.4	..	30.3	22.5	18.1	21.4	50	..	1.4	..	4.8	0	1	22	2	2	4	3	1	3	2	6	8	0
	2330	"	1009.3	984.2	..	23.1	19.8	17.8	19.9	73	..	0.3	..	3.5	0	0	23	0	2	3	9	2	2	2	3	8	0
Karnal	0830	249	1010.7	982.3	..	23.3	20.8	19.6	22.6	78	..	0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	1007.6	979.9	..	29.6	22.5	18.4	21.6	53	..	0.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Patiala	0830	251	1010.7	982.5	..	24.7	21.4	19.6	22.6	73	..	1.6	..	5.0	0	0	20	0	1	0	13	0	0	0	0	6	11
	1730	"	1007.9	979.9	..	27.9	21.7	17.9	20.9	56	..	1.2	..	3.9	0	0	14	4	0	0	6	0	0	0	0	4	17
Ambala	0830	272	1010.7	980.0	-0.3	23.1	21.4	20.2	24.1	83	+23	0.9	+0.2	1.6	0	0	11	0	0	0	6	0	3	0	2	20	0
	1730	"	1006.8	976.4	..	28.2	23.2	20.5	24.6	62	..	0.6	..	1.7	0	0	15	0	0	0	14	0	0	0	0	1	16
Ambala (P.B.O.)	0230	278	1008.5	976.9	..	22.7	20.7	19.8	23.4	84	..	0.6	..	4.8	0	0	21	1	2	6	7	0	0	1	4	10	0
	0530	"	1008.8	977.1	..	21.6	19.9	19.2	22.3	86	..	0.9	..	5.6	0	0	23	1	0	8	9	0	1	0	4	8	0
	1130	"	1010.2	979.1	..	28.0	22.7	20.4	23.8	64	..	1.9	..	7.2	0	1	25	2	2	1	14	1	1	2	3	5	0
	2330	"	1008.9	977.5	..	23.8	21.1	19.9	23.2	79	..	0.7	..	5.5	0	0	25	3	3	4	6	0	0	1	8	6	0
	0530	23	1009.0	977.5	..	19.8	19.3	19.0	22.1	94	..	0.9	..	..	0	2	11	1	3	5	1	0	0	1	2	18	0
Ambala (Aerodrome)	0830	"	1010.6	979.4	..	22.9	21.2	20.1	23.7	85	..	1.5	..	..	0	4	19	0	0	13	4	0	0	2	4	8	0
	1130	"	1010.1	979.3	..	27.9	23.2	20.7	21.3	65	..	2.2	..	..	0	6	22	1	1	11	6	0	0	2	7	3	0
	1730	"	1006.8	976.2	..	27.6	22.4	19.6	22.7	62	..	1.7	..	..	0	1	23	0	0	3	4	0	0	2	15	7	0
	2330	"	1009.2	977.9	..	21.3	20.3	19.6	22.5	89	..	0.5	..	..	0	2	14	1	0	5	3	0	0	1	6	15	0
	0830	347	1010.0	971.1	..	25.1	21.0	18.3	21.2	67	..	1.4	..	..	0	0	19	0	0	2	12	4	0	0	1	12	0
Ludhiana	1730	"	1006.8	968.4	..	27.0	21.8	18.6	21.2	60	..	0.5	..	..	0	13	0	1	0	6	0	0	2	4	18	0	0
	0830	247	1010.5	982.4	-0.8	24.5	21.7	20.4	23.7	78	+17	0.9	+0.3	2.0	0	0	20	1	4	1	10	0	1	0	3	11	0
Halwara (Aerodrome)	1730	"	1007.1	979.5	..	28.6	24.2	22.0	26.4	68	..	1.0	..	2.4	0	0	25	1	11	0	5	0	3	0	4	6	1
	0830	246	1010.7	983.2	..	23.6	20.9	19.4	21.9	77	..	0.9	..	7.7	0	4	15	0	0	4	9	1	1	1	3	12	0
	1730	"	1007.8	980.9	..	29.5	21.7	17.4	19.6	51	..	1.0	..	9.0	0	2	26	12	0	0	5	1	0	1	9	3	0
Bhatinda	0830	..	..	..	..	25.9	21.2	18.4	21.2	65	..	0.6	..	8.2	0	2	26	0	2	3	11	7	2	2	1	3	0
	1730	..	..	..	..	31.8	22.6	18.1	19.8	44	..	0.7	..	7.2	0	1	29	5	4	1	3	0	1	2	16	1	0
Ferozepur	0830	200	1010.1	987.3	..	23.6	20.7	18.9	23.1	78	..	0.7	..	1.5	0	0	13	0	6	0	5	0	1	0	1	18	0
	1730	"	1006.6	984.7	..	31.7	23.5	19.0	21.8	49	..	0.5	..	1.3	0	0	12	2	2	1	1	0	0	0	6	19	0
Amritsar	0530	234	1009.3	982.3	..	19.7	19.3	18.6	21.4	94	..	0.6	..	4.4	0	1	15	0	1	7	6	1	0	1	0	15	0
	0830	"	1010.7	984.0	..	23.0	21.3	19.9	24.2	83	..	1.3	..	6.9	0	4	10	0	2	4	4	2	1	0	1	17	0
	1130	"	1010.5	984.3	..	28.7	22.4	18.8	21.6	57	..	0.8	..	7.1	0	1	26	2	1	5	3	3	4	2	4	4	1
	1730	"	1007.2	981.2	..	29.5	22.5	18.6	21.6	53	..	0.9	..	5.0	0	0	27	4	2	3	2	1	0	4	11	4	0
Pathankot	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pathankot (Aerodrome)	0830	312	1010.7	975.5	..	23.4	20.2	18.1	20.9	73	..	1.9	..	2.2	0	0	18	3	7	5	2	0	1	0	0	13	0
	1130	"	1010.4	975.6	..	27.4	21.9	18.7	21.4	60	..	2.1	..	3.7	0	0	28	0	2	1	6	2	10	5	2	3	0
	1730	"	1007.2	972.7	..	28.2	22.3	18.9	22.5	58	..	1.8	..	2.4	0	0	20	0	0	3	1	0	2	6	8	11	0
Adampur (Aerodrome)	0530	233	1008.1	980.9	..	19.8	19.4	19.1	22.0	97	..	..	..	3.9	0	1	11	0	4	4	3	1	0	0	0	19	0
	0830	"	1009.4	982.3	..	23.4	21.5	20.4	23.9	83	..	..	..	6.0	0	1	18	1	2	9	6	0	0	0	1	12	0
	1130	"	1009.4	982.7	..	28.7	23.4	20.5	24.9	63	..	..	..	9.9	0	4	22	2	1	3	10	1	0	0	9	5	0
	1730	"	1006.3	979.8	..	28.4	23.2	20.4	23.9	62	..	..	..	6.0	0	1	23	1	2	6	2	0	0	0	13	7	0
	2330	"	2008.4	981.0	..	22.3	21.1	20.5	25.0	89	..	..	..	4.5	0	1	13	1	4	4	3	0	0	0	2	17	0
Himachal Pradesh Bilaspur	0830	493	1012.3	956.1	..	19.0	18.0	17.1																			

Division and station	Hour of observation I. S. T.	Height of barometer, cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed Km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Jammu and Kashmir <i>Contd.</i> Srinagar— <i>Contd.</i>	1730	1587	1484.9	840.1	..	19.0	13.9	9.6	12.3	56	..	2.1	..	1.8	0	0	13	1	1	0	4	0	0	4	3	18	0	
	2330	"	1506.8	842.1	..	12.0	10.8	9.9	12.2	88	..	0.8	..	1.3	0	0	7	1	0	0	6	0	0	0	0	24	0	
	Srinagar (Aerodrome)	0530	1665	1503.5	834.2	..	9.6	7.9	6.2	9.5	79	..	1.6	..	5.2	0	0	21	0	1	2	2	7	3	2	4	10	0
		0830	"	1515.6	835.5	..	13.2	10.0	7.1	10.5	68	..	1.6	..	0.9	0	0	19	3	0	1	3	2	1	1	8	12	0
		1130	"	1510.2	835.4	..	18.9	12.8	7.9	10.8	50	..	1.9	..	5.0	0	0	24	8	3	2	4	1	1	1	4	7	0
		1730	"	1480.1	832.5	..	20.2	12.9	7.2	10.1	45	..	2.5	..	4.5	0	1	15	2	1	1	3	2	0	0	7	15	0
	Gulmarg (R)	0830	2655																									
		1730	"																									
	Dras (R)	0830	3066																									
	Kargil (R)	0530	2679																									
Leh (R)	0530	3514	3113.5	667.1	..	2.5	2.5	-11.2	1.6	35	..	1.8	..	(a) 4.8	0	0	24	11	12	0	1	0	0	0	0	6	0	
	0830	"	3119.8	668.1	-1.0	9.5	3.2	-5.3	4.1	35	-11	2.1	-0.1	1.2	0	0	7	0	1	0	0	4	2	0	0	24	0	
	1730	"	3074.2	664.9	-1.0	14.8	5.3	-6.8	3.6	24	..	2.0	..	5.4	0	0	30	2	2	0	1	7	15	5	0	1	0	
Skardu (R)	0830	2288																										
	1730	"																										
Gilgit (R)	0830	1491																										
	1730	"																										
Jammu*	0830	..																										
Jammu (Aerodrome)	0530	292	1009.3	975.8	..	20.8	18.9	17.7	20.3	83	..	1.6	..	4.7	0	0	20	1	12	3	2	1	0	0	1	11	0	
	0830	"	1010.6	977.3	..	33.2	20.0	18.0	20.7	73	..	1.6	..	5.6	0	0	27	0	18	3	5	0	0	0	1	4	0	
	1130	"	1010.4	977.6	..	28.1	21.7	18.0	20.7	55	..	2.2	..	6.1	0	0	25	0	4	0	6	6	3	5	1	6	0	
	1730	"	1007.3	974.7	..	28.4	22.2	18.8	21.8	57	..	1.8	..	5.3	0	0	24	0	1	2	2	0	2	11	6	7	0	
Rajasthan (West) Sriganganagar	0530	177	1008.2	988.0	..	21.5	18.2	16.5	18.0	71	..	0.2	..	1.6	0	0	12	0	1	4	6	1	0	0	0	19	0	
	0830	"	1009.7	989.6	..	22.7	19.0	17.0	19.3	69	+19	0.2	..	2.2	0	0	22	1	1	4	10	1	4	1	0	9	0	
	1130	"	1009.4	989.8	..	32.3	22.5	15.8	19.3	39	..	0.4	..	4.3	0	0	28	2	1	3	8	2	8	3	1	3	0	
	1730	"	1006.2	986.7	..	32.8	22.9	17.7	19.6	42	..	0.5	..	0.7	0	0	6	1	2	1	1	0	1	0	0	25	0	
	2330	"	1008.8	988.5	..	24.0	19.6	16.8	19.2	65	..	0	..	2.0	0	0	13	0	2	4	4	3	0	0	0	18	0	
Churu	0830	291	1010.6	977.6	..	23.9	20.1	17.6	20.2	68	..	1.1	..	6.1	0	0	26	1	1	5	1	4	8	6	0	5	0	
	1730	"	1006.5	974.5	..	32.6	22.2	15.6	18.5	39	..	1.6	..	2.8	0	0	30	15	1	2	1	2	2	4	3	1	1	
Bikaner	0830	224	1010.1	984.8	-1.0	25.1	19.7	15.9	18.7	58	+11	0	-0.6	5.4	0	0	30	0	1	0	11	1	6	10	1	1	1	
	1730	"	1006.3	981.7	..	34.5	21.8	12.8	15.5	29	..	0.2	..	3.5	0	0	25	1	4	1	1	0	3	5	10	6	0	
Bikaner (P. B. O.)	0530	224	1008.8	983.1	..	22.7	19.7	18.1	20.5	79	..	0.7	..	4.6	0	0	20	2	0	0	3	3	9	3	0	11	0	
	1130	"	1009.6	984.9	..	33.3	26.7	22.5	29.5	54	..	0.2	..	6.8	0	0	28	0	4	1	1	3	11	6	1	3	1	
	2330	"	1008.9	983.6	..	34.9	20.9	18.3	21.9	68	..	1.0	..	3.5	0	0	14	1	3	0	1	5	2	2	0	17	0	
Jaisalmer	0830	242	1009.1	981.9	..	26.5	21.8	18.9	22.5	65	..	0.3	..	12.2	0	4	22	0	0	0	1	12	13	0	0	5	0	
	1730	"	1005.4	979.1	..	34.8	23.7	17.3	20.6	35	..	0.9	..	15.8	0	5	23	0	0	0	0	14	14	0	0	3	0	
Phalodi	0830	234	1010.6	984.1	..	25.4	21.8	19.6	22.7	72	..	1.4	..	12.5	0	3	25	0	0	0	3	4	10	10	1	3	0	
	1730	"	1007.2	981.6	..	34.6	22.9	15.4	18.2	34	..	1.3	..	9.2	0	1	28	3	5	3	1	2	6	8	1	2	0	
Nagaur	0830	298	1010.6	977.1	..	26.6	20.7	16.8	19.7	57	..	1.0	..	6.5	0	0	30	1	1	5	1	9	9	3	1	1	0	
	1730	"	1006.4	973.7	..	32.8	20.8	11.8	14.9	30	..	1.6	..	7.6	0	0	31	3	5	5	4	4	8	2	0	0	0	
Jodhpur	0230	224	1008.8	983.4	..	25.1	20.2	17.0	19.3	62	..	0.7	..	5.7	0	0	25	1	4	0	0	2	9	8	1	6	0	
	0530	"	1009.0	983.4	..	23.4	19.6	17.0	19.4	69	..	1.2	..	4.6	0	0	23	3	6	0	0	1	4	9	0	8	0	
	0830	"	1010.8	985.4	+0.5	25.4	20.8	17.9	20.8	65	+14	2.0	+1.0	4.5	0	0	19	0	5	0	0	0	8	5	1	12	0	
	1130	"	1010.3	985.4	..	31.3	22.4	16.8	19.6	44	..	1.3	..	8.5	0	0	30	3	2	3	1	4	10	3	2	1	2	
	1730	"	1006.7	982.0	..	34.1	22.3	15.0	17.3	34	..	2.4	..	7.9	0	1	26	1	6	4	2	1	9	3	0	4	2	
Barmer	2330	"	1019.3	984.1	..	26.7	20.4	16.2	18.6	54	..	1.2	..	5.5	0	0	26	0	4	0	1	3	8	10	0	5	0	
	0530	194	1008.0	986.1	..	25.2	21.1	18.6	21.9	68	..	..	..	4.6	0	0	29	4	2	0	2	3	14	0	4	2	0
	0830	"	1009.5	987.6	-1.6	25.9	21.5	19.0	21.9	66	+10	..	+0.3	4.3	0	0	31	4	4	0	3	5	12	1	2	0	0	
	1130	"	1009.5	988.0	..	33.1	23.1	17.0	21.0	40	..	..	..	4.5	0	0	31	2	4	0	7	7	8	0	3	0	0
	1730	"	1005.9	984.6	..	33.8	22.6	15.7	18.7	35	..	..	..	4.3	0	0	30	3	3	0	1	9	12	0	2	1	0
Rajasthan (East) Filani	2330	"	1008.4	986.6	..	27.9	21.4	17.2	20.3	54	..	..	..	5.5	0	0	31	1	3	0	3	14	7	0	3	0	0
	0830	"	..	..	..	26.0	20.2	16.5	19.1	56	..	0.2	..	7.0	0	0	31	3	1	5	5	8	6	1	2	0	0
	1730	"	..	..	..	31.9	21.5	13.9	16.5	36	..	0.8	..	9.2	0	2	29	9	4	4	2						

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in inches	Mean pressure in milli bars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (K m. p.h.)			No. of observations									
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Rajasthan (East) —Contd. Jaipur (Sanganer Aerodrome)—Contd.	0830	370	1010.2	966.5	-1.8	25.6	21.1	18.3	22.2	65	+18	..	..	4.3	0	0	21	2	2	5	0	0	2	3	7	10	0
	1130	..	1009.6	966.7	..	30.3	22.4	17.6	21.7	49	..	..	..	8.7	0	1	26	1	1	2	3	0	3	7	10	4	0
	1730	..	1006.5	963.6	..	30.3	21.5	15.8	20.1	44	..	..	..	6.4	0	2	21	2	6	1	2	0	2	3	7	8	0
	2330	..	1009.6	965.5	..	22.6	19.5	17.4	21.0	70	..	..	..	2.3	0	0	13	2	2	2	1	0	1	0	5	18	0
Dholpur	0830	176	1010.0	990.0	..	25.5	22.5	21.0	24.8	76	..	1.6	..	1.5	0	0	13	2	3	2	1	2	0	3	0	18	0
	1730	..	1006.3	986.7	..	30.3	24.0	20.6	24.9	58	..	1.7	..	2.5	0	0	19	7	4	2	0	0	1	2	3	12	0
Tonk	0830	272	1009.7	979.0	..	24.8	22.5	21.2	25.9	81	..	2.1	..	3.5	0	0	20	4	3	3	4	0	2	1	3	11	0
	1730	..	1005.8	975.7	..	30.3	25.8	23.1	30.2	67	..	2.0	..	4.5	0	0	25	5	5	1	0	0	2	2	10	6	0
Ajmer	0830	486	1010.9	956.9	-1.0	24.0	20.1	17.8	20.2	69	+22	1.4	+0.5	4.0	0	0	17	0	4	0	1	1	5	5	1	14	0
	1730	..	1006.8	953.8	..	30.4	20.4	14.1	16.0	39	..	2.0	..	5.2	0	1	26	2	6	3	3	2	3	6	2	4	0
Kotah	0530	257	1009.4	980.2	..	22.7	20.7	19.5	23.2	82	..	1.3	..	0.3	0	0	3	0	0	0	1	0	0	2	0	28	0
	0830	..	1010.8	981.9	-0.9	26.7	22.3	19.8	23.2	67	+18	1.0	-0.3	0.6	0	0	6	1	2	0	0	0	1	2	0	25	0
	1130	..	1010.2	981.7	..	30.7	24.0	20.2	24.2	57	..	2.1	..	0.2	0	0	2	0	0	2	0	0	0	0	0	29	0
	1730	..	1007.3	978.9	..	30.6	23.1	18.7	22.1	51	..	2.0	..	0.3	0	0	3	0	0	1	0	0	1	0	1	28	0
	2330	..	1009.8	980.8	..	25.0	21.7	19.8	21.9	73	..	1.6	..	1.1	0	0	10	0	0	0	0	0	6	3	1	21	0
Chambal	0830	351	1011.1	971.5	..	23.7	21.7	20.5	24.5	82	..	2.0	..	2.6	0	0	16	2	2	1	1	4	0	3	3	15	0
	1730	..	1007.0	968.2	..	30.0	22.9	18.8	21.8	54	..	3.0	..	4.9	0	0	27	3	11	3	1	2	1	4	2	4	0
Jhalawat	0830	321	1010.5	974.4	-1.3	24.3	21.5	19.8	23.7	76	+15	2.1	-0.7	1.1	0	0	10	1	3	1	0	0	0	1	4	21	0
	1730	..	1006.6	971.3	..	30.5	22.6	17.7	20.7	50	..	2.5	..	2.3	0	0	22	8	7	1	0	0	1	0	5	9	0
Udaipur	0230	582	1010.1	944.6	..	19.9	18.9	18.3	20.0	90	..	1.4	..	0.3	0	0	2	0	0	0	0	0	0	1	1	29	0
	0530	..	1010.5	944.8	..	19.2	18.3	17.8	20.5	92	..	2.0	..	0.4	0	0	4	1	0	0	0	1	0	0	2	27	0
	0830	..	1011.2	946.4	-1.2	23.5	20.1	18.6	20.9	76	+19	2.0	+1.2	1.3	0	0	13	2	2	0	0	1	1	2	5	18	0
	1130	..	1009.9	946.5	..	29.3	21.5	17.1	20.2	50	..	2.9	..	2.2	0	0	19	3	6	2	1	2	1	1	3	12	0
	1730	..	1007.5	943.9	..	27.5	21.2	17.7	19.5	57	..	3.9	..	1.4	0	0	11	2	2	0	0	4	1	2	0	20	0
	2330	..	1011.0	945.9	..	20.8	19.3	18.4	20.4	86	..	1.6	..	0.5	0	0	5	0	1	1	0	0	0	2	1	26	0
Erinpura (Jawai Dam)	0830	295	1010.4	977.1	..	24.6	21.6	19.9	23.0	75	..	1.7	..	2.9	0	0	17	0	1	1	9	1	4	0	1	14	0
	1730	..	1006.6	974.1	..	30.4	24.0	20.7	24.9	57	..	3.3	..	2.8	0	0	20	3	0	1	7	2	1	5	1	11	0
Madhya Pradesh (West) Gwalior (P.B.O.).	0230	207	1008.5	984.9	..	21.8	19.8	18.7	21.4	85	..	1.1	..	1.7	0	0	13	0	0	1	4	2	4	1	1	18	0
	0530	..	1008.9	985.2	..	20.8	19.3	18.7	21.3	86	..	1.4	..	1.1	0	0	7	1	0	1	1	1	3	0	0	24	0
	0830	..	1010.4	987.0	-1.3	25.8	21.8	19.6	22.7	69	+10	1.8	+1.0	4.4	0	0	23	3	2	3	2	0	7	4	1	8	1
	1130	..	1009.6	986.6	..	30.7	22.3	17.4	20.2	47	..	2.3	..	5.5	0	0	27	9	3	2	1	1	3	5	2	4	1
	1730	..	1006.6	983.8	..	29.8	22.3	17.9	20.8	51	..	2.0	..	2.9	0	0	18	6	6	1	0	0	1	1	3	13	0
	2330	..	1009.5	985.9	..	22.8	20.3	18.8	21.8	78	..	1.6	..	2.0	0	0	13	0	1	2	3	1	5	0	1	18	0
Sheopur kaian	0830	235	1010.7	984.1	..	25.2	22.0	20.0	23.9	74	..	2.2	..	3.7	0	0	22	1	4	2	2	8	3	2	0	9	0
	1730	..	1005.3	979.3	..	29.6	23.5	20.4	24.0	59	..	2.9	..	6.6	0	0	29	8	9	4	2	2	1	0	3	2	0
Guna	0530	418	1009.2	955.1	..	19.9	18.8	18.2	21.0	90	..	1.9	..	1.8	0	0	14	2	2	0	5	2	1	0	2	17	0
	0830	..	1010.0	957.0	-1.5	24.3	21.0	19.4	22.5	74	+12	2.5	+1.3	1.7	0	0	14	6	1	2	0	3	0	1	1	17	0
	1130	..	1009.7	957.2	..	28.9	21.7	17.8	20.6	53	..	3.5	..	3.9	0	0	29	8	1	7	1	0	0	5	7	2	0
	1730	..	1006.8	954.2	..	27.8	21.0	17.6	19.9	55	..	3.5	..	4.4	0	0	28	10	2	3	2	1	1	2	7	3	0
	2330	..	1009.6	956.0	..	21.9	19.7	18.7	21.3	82	..	1.9	..	0.7	0	0	6	1	0	0	2	1	1	1	0	25	0
Rajgarh	0830	382	1010.2	967.3	..	24.2	21.4	19.8	23.2	76	..	1.6	..	2.5	0	0	17	3	3	0	0	2	0	6	3	14	0
	1730	..	1006.6	964.6	..	29.1	22.0	17.5	20.7	53	..	3.2	..	5.2	0	0	25	9	4	1	0	1	0	7	3	6	0
Ncemuch	0830	496	1011.0	955.5	-1.4	24.4	20.6	18.3	20.4	70	+15	2.1	+0.9	4.6	0	0	26	2	15	0	0	0	1	6	2	5	0
	1730	..	1007.5	953.4	..	28.0	20.9	16.5	20.0	54	..	3.7	..	7.3	0	0	27	3	10	1	1	1	3	6	2	4	0
Ratlam	0830	486	1010.6	956.1	..	22.5	20.4	18.7	22.4	81	..	3.2	..	5.9	0	0	25	1	11	4	0	0	5	3	1	6	0
	1730	..	1007.0	953.5	..	28.4	21.6	17.5	20.8	57	..	4.5	..	11.5	0	1	28	6	8	4	0	2	3	5	1	2	0
Alirajpur	0830	293	1011.2	978.1	..	23.8	21.8	20.7	24.7	83	..	3.8	..	3.6	0	0	19	0	2	5	2	1	1	6	6	7	0
	1730	..	1007.3	974.9	..	29.1	22.9	19.4	23.0	59	..	3.8	..	6.1	0	0	24	3	2	4	1	1	1	6	6	7	0
Indore	0530	567	1009.4	945.7	..	20.3	18.9	18.1	20.8	88	..	2.6	..	4.5	0	0	25	1	7	2	0	4	7	3	1	6	0
	0830	..	1010.7	947.7	-0.9</																						

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9, —KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed in Km. per hour	(Wind speed Km.ph.)			No. of observations									
			At mean sea or height in g.p.m. of the standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		16 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Madhya Pradesh (West)—Contd. Bhopal (Bairagarh)—Contd.	1730	..	1006.8	949.3	..	27.2	21.1	17.7	20.6	59	..	3.9	..	9.1	0	0	28	9	8	4	1	0	3	2	1	3	0
	2330	..	1009.9	951.4	..	22.6	20.0	18.5	21.5	79	..	2.4	..	3.9	0	1	13	1	5	3	0	2	1	0	2	17	0
Khandwa	0830	318	1010.5	974.8	-1.2	25.0	22.2	20.7	24.4	77	+15	3.7	+1.9	4.1	0	0	31	0	5	2	4	7	5	5	3	0	0
	1730	..	1006.8	971.7	..	28.0	23.0	19.6	24.0	61	..	5.1	..	6.5	0	0	30	3	10	3	0	0	6	1	7	1	0
Hoshangabad	0830	362	1010.7	976.7	-1.7	24.9	22.3	20.9	24.7	79	+11	3.0	+1.2	2.5	0	0	16	1	1	8	0	1	2	3	0	15	0
	1730	..	1006.6	973.1	..	28.8	23.2	20.2	23.9	61	..	4.1	..	1.3	0	0	10	5	0	2	0	2	0	1	0	21	0
Betul	0830	653	1010.6	938.3	..	23.3	20.7	19.3	22.4	79	..	3.2	..	3.7	0	0	26	2	2	7	7	3	0	2	3	5	0
	1730	..	1006.8	935.1	..	25.6	21.0	18.5	21.6	67	..	4.1	..	4.9	0	0	30	6	13	1	1	1	1	2	5	1	0
Chhindwara	0830	685	1010.4	934.7	..	23.5	20.6	19.1	22.1	77	..	3.3	..	5.3	0	0	26	3	6	2	4	0	1	5	5	5	0
	1730	..	1006.6	931.8	..	25.8	21.1	18.4	21.5	65	..	5.0	..	5.9	0	0	29	5	8	1	3	3	3	1	5	2	0
Seoni	0830	619	1010.2	941.7	-1.3	23.7	21.0	19.6	23.0	78	+17	4.3	+2.4	2.0	0	0	13	3	5	2	0	1	1	0	1	18	0
	1730	..	1006.4	938.7	..	26.4	21.4	18.9	21.9	66	..	4.0	..	1.5	0	0	12	2	2	1	5	0	0	0	2	19	0
Sagar	0830	551	1010.1	948.9	-1.4	24.2	21.1	19.4	22.8	76	+21	2.6	+0.8	6.3	0	0	30	0	5	8	2	0	2	8	5	1	0
	1730	..	1006.5	946.0	..	26.9	21.1	17.9	21.4	60	..	3.8	..	4.1	0	0	25	0	7	9	0	0	0	6	3	6	0
Nowgong	0830	229	1010.7	984.8	-1.0	24.1	22.1	21.0	24.2	83	+14	2.7	+1.0	4.5	0	0	29	2	6	1	2	8	7	1	2	2	0
	1730	..	1007.0	981.6	..	29.2	23.7	20.7	24.5	62	..	2.9	..	2.5	0	0	17	0	0	1	0	0	0	0	3	27	0
Madhya Pradesh (East) Sutna	0530	317	1008.3	972.3	..	21.8	21.1	20.7	24.5	93	..	3.6	..	0.5	0	0	4	0	0	6	0	0	1	1	3	20	0
	0830	..	1010.2	974.4	-1.3	23.5	22.5	21.5	26.6	84	+17	3.1	+1.3	1.3	0	0	11	0	3	8	0	0	2	2	1	15	0
Sidhi	1130	..	1009.3	974.0	..	27.9	23.4	21.0	25.1	68	..	3.9	..	2.1	0	0	16	1	0	3	0	0	0	0	2	25	0
	1730	..	1006.7	971.4	..	26.8	23.0	21.0	25.0	72	..	4.2	..	1.1	0	0	6	1	0	3	1	0	1	0	0	1	28	0
Umari	2330	..	1009.1	973.3	..	23.2	22.0	21.4	25.5	90	..	2.9	..	0.3	0	0	3	0	2	2	2	2	1	7	1	14	0
	0830	266	1008.4	978.5	..	24.6	22.2	20.1	25.6	81	..	3.5	..	2.0	0	0	17	0	2	2	2	2	1	7	1	14	0
Jabalpur	1730	..	1004.1	974.7	..	28.3	22.9	19.9	26.7	62	..	2.8	..	1.7	0	0	14	2	1	5	0	0	0	4	2	17	0
	0830	459	1010.1	958.8	..	24.5	21.5	20.2	23.2	77	+10	3.1	+0.7	2.9	0	0	15	0	2	3	4	0	1	1	4	16	0
Mandla	1730	..	1006.4	955.8	..	27.1	22.6	20.2	24.3	67	..	3.8	..	1.2	0	0	8	0	1	1	1	0	1	0	4	23	0
	0530	393	1008.7	964.3	..	21.3	20.6	20.2	23.8	93	..	2.9	..	2.4	0	0	20	2	4	1	8	2	1	1	1	11	0
Pendra	0830	..	1010.3	966.3	-1.2	24.9	22.1	20.6	24.4	77	+6	3.0	+1.3	3.6	0	0	24	2	3	1	8	4	1	2	3	7	0
	1130	..	1008.9	965.7	..	29.4	23.5	20.5	24.2	60	..	3.2	..	5.9	0	0	26	4	4	2	4	3	2	4	3	5	0
Raigarh	1730	..	1006.3	963.0	..	27.9	22.7	19.7	23.3	63	..	3.8	..	4.9	0	0	24	2	10	6	2	1	1	1	1	7	0
	2330	..	1009.4	965.2	..	22.8	21.3	20.4	24.1	86	..	2.2	..	3.6	0	0	19	1	5	4	5	2	0	0	2	12	0
Raipur	0830	443	1010.6	960.9	..	22.8	21.0	20.0	23.5	84	..	3.8	..	1.2	0	0	7	3	0	0	2	1	0	0	1	24	0
	1730	..	1006.5	957.6	..	26.8	22.0	19.3	22.6	65	..	3.6	..	2.1	0	0	8	4	0	0	0	1	0	0	3	23	0
Kanker	0530	625	1008.9	939.1	..	20.0	19.1	18.6	21.3	91	..	4.0	..	3.5	0	0	21	5	0	1	1	6	2	4	2	10	0
	0830	..	1010.3	941.2	-1.5	23.2	20.9	19.7	23.2	82	+15	4.0	+1.6	3.4	0	0	20	5	2	0	2	3	5	2	1	11	0
Champa	1130	..	1009.0	940.6	..	26.3	21.5	18.9	22.1	66	..	4.9	..	6.2	0	0	27	6	1	3	0	4	6	1	6	4	0
	1730	..	1006.6	938.1	..	25.2	21.5	19.6	23.1	72	..	4.6	..	4.0	0	0	21	5	0	0	0	2	6	5	3	10	0
Raipur	2330	..	1009.9	940.3	..	21.2	19.8	19.0	22.1	88	..	3.1	..	3.5	0	0	23	5	2	1	1	5	8	2	0	7	0
	0830	611	1010.2	942.4	..	23.0	20.8	19.6	23.1	82	..	3.5	..	4.8	0	1	29	8	4	2	2	3	5	2	4	1	0
Raipur	1730	..	1006.5	939.5	..	25.5	21.3	19.1	22.3	69	..	3.3	..	7.4	0	1	23	8	3	6	2	0	0	3	2	7	0
	0830	245	1010.4	982.7	..	24.9	22.7	21.6	25.7	82	..	3.9	..	3.2	0	0	22	6	0	9	0	0	0	2	5	9	0
Raipur	1730	..	1006.6	979.2	..	28.3	23.3	20.7	24.5	65	..	3.8	..	3.8	0	0	28	0	9	4	5	1	6	2	1	3	0
	0830	220	1010.0	985.1	..	25.8	22.9	21.5	25.7	77	..	4.4	..	4.0	0	0	23	0	3	2	9	2	2	1	4	8	0
Raipur	1730	..	1006.4	981.7	..	28.1	23.3	21.4	24.8	69	..	4.6	..	2.7	0	0	19	3	2	5	0	4	3	1	1	12	0
	0530	298	1008.6	974.8	..	22.9	22.1	21.7	25.6	93	..	4.3	..	3.4	0	0	23	2	4	6	1	5	2	2	2	7	0
Kanker	0830	..	1010.4	976.9	-1.0	25.8	23.0	21.6	25.9	78	+7	4.1	+1.8	5.1	0	1	23	2	4	6	1	5	2	2	2	7	0
	1130	..	1009.1	976.0	..	29.2	23.6	20.6	24.6	61	..	4.4	..	5.4	0	1	25	1	4	8	2	2	1	4	4	5	0
Kanker	1730	..	1006.4	973.5	..	28.0	23.3	20.6	24.8	65	..	5.1	..	4.7	0	0	23	3	5	7	1	1	1	4	1	8	0
	2330	..	1009.2	975.6	..	24.0	22.3	21.4	25.6	84	..	2.8	..	3.9	0	0	20	0	1	8	1	5	2	2	1	11	0
Jagdalpur (P.B.O.)	0830	402	1010.1	965.2	-1.1	24.4	22.2	20.9	24.9	81	+2	3.5	+0.2	0.7	0	0	5	0	2	0	0	1	0	0	2	26	0
	1730	..	1006.2	962.0	..	28.0</																					

Division and station	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mba.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in Kms. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of the nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Gujarat—Contd.																												
Idar	0830	219	1010.5	985.8	..	25.8	21.7	18.9	22.6	66	..	2.6	..	6.6	0	0	25	5	9	4	1	1	1	1	3	1	6	0
	1730	"	1007.4	983.0	..	29.3	22.7	18.8	22.1	56	..	3.6	..	4.0	0	0	24	2	2	4	3	2	0	8	3	7	0	
Ahmedabad	0230	55	1008.6	1002.3	..	23.4	21.8	20.9	24.8	86	..	2.0	..	5.5	0	1	18	4	4	2	3	0	2	3	1	12	0	
	0530	"	1008.7	1002.3	..	22.6	21.3	20.6	24.3	88	..	2.2	..	6.3	0	0	22	3	6	2	2	1	1	4	3	9	0	
	0830	"	1010.5	1004.1	-1.6	25.6	22.7	21.0	25.2	76	+12	2.6	+1.3	8.7	0	0	23	1	6	8	4	0	0	1	3	8	0	
	1130	"	1010.5	1004.3	..	30.6	23.8	20.1	24.1	56	..	3.0	..	12.3	0	3	25	1	4	9	5	3	0	3	3	3	0	
	1730	"	1007.4	1001.2	..	30.8	23.9	20.1	24.0	56	..	3.1	..	9.1	0	2	27	2	7	3	7	3	1	3	3	2	0	
	2330	"	1009.6	1003.3	..	24.7	22.2	20.8	24.8	80	..	2.5	..	5.0	0	2	13	3	1	4	1	1	4	1	0	16	0	
Dohad	0830	333	1010.6	973.0	..	23.7	21.7	20.5	24.4	83	+12	3.0	+0.9	6.5	0	0	25	0	3	10	3	1	2	4	2	6	0	
	1730	"	1006.8	970.0	..	28.9	22.6	18.8	22.2	55	..	3.5	..	8.6	0	0	29	7	7	1	0	1	6	5	2	2	0	
Baroda	0530	34	1008.7	1004.6	..	22.9	22.1	21.7	25.9	93	..	2.2	..	..	..	..	..	0	2	0	5	1	1	0	1	21	0
	0830	"	1010.5	1006.5	..	25.5	23.3	22.2	26.8	83	+11	2.5	+1.1	..	..	..	..	0	2	1	5	1	4	1	0	17	0
	1130	"	1010.6	1006.6	..	30.6	24.7	21.7	26.4	61	..	2.7	..	..	..	..	..	0	8	0	7	3	5	0	0	8	0
	1730	"	1007.3	1003.5	..	30.6	24.9	22.1	26.8	62	..	2.3	..	..	..	..	..	2	7	1	1	2	1	1	1	15	0
	2330	"	1009.7	1005.7	..	24.2	22.7	21.9	26.4	87	..	1.7	..	..	..	..	..	0	4	0	2	4	1	1	0	19	0
Baroda (Aerodrome)	0830	38	1010.3	1006.0	..	26.1	23.4	22.1	26.5	79	..	2.8	..	6.4	0	2	25	4	6	3	6	2	0	4	2	4	0	
	1130	"	1010.3	1006.0	..	30.8	24.2	20.6	24.7	57	..	3.1	..	7.3	0	0	30	2	7	4	9	1	0	3	4	1	0	
	1730	"	1007.1	1002.9	..	31.0	24.3	20.7	25.0	57	..	3.0	..	7.9	0	1	29	8	6	2	1	1	1	5	6	1	0	
Broach	0830	17	1009.7	1007.7	..	24.8	22.7	21.6	25.8	83	..	3.4	..	4.4	0	0	30	0	3	3	5	5	10	1	3	1	0	
	1730	"	1006.5	1004.6	..	31.0	24.3	20.8	25.0	58	..	3.1	..	6.3	0	0	30	0	5	0	8	0	15	0	2	1	0	
Surat	0530	12	1008.3	1006.9	..	23.8	22.1	21.2	25.3	86	..	2.7	..	7.2	0	2	24	2	7	2	6	3	0	1	5	5	0	
	0830	"	1010.2	1008.9	-1.2	25.2	22.8	21.5	25.8	81	+13	3.1	+0.9	5.8	0	1	27	2	4	6	8	3	0	2	3	3	0	
	1130	"	1010.3	1008.8	..	29.9	24.5	21.7	26.4	66	..	3.4	..	7.2	0	1	30	3	6	0	8	4	1	1	8	0	0	
	1730	"	1007.2	1005.9	..	30.6	24.3	21.0	25.2	61	..	3.0	..	6.5	0	0	30	3	3	1	3	4	6	3	7	1	0	
	2330	"	1009.5	1008.1	..	25.6	22.9	21.4	25.8	79	..	3.1	..	6.8	0	2	19	0	5	1	4	4	3	1	3	10	0	
Saurashtra and Kutch Naliya	0830	21	1010.3	1007.8	..	24.8	23.5	22.4	27.9	88	..	2.0	..	3.9	0	0	20	5	6	3	0	0	1	3	2	11	0	
	1730	"	1007.6	1005.2	..	30.5	23.9	20.8	24.2	57	..	3.3	..	12.2	0	6	25	4	4	1	1	1	7	10	3	0	0	
Bhuj (Aerodrome)	0230	80	1008.7	999.4	..	23.5	22.0	21.2	25.4	87	..	0.9	..	4.5	0	0	14	0	2	1	1	0	2	6	2	17	0	
	0530	"	1008.7	999.4	..	22.6	21.4	20.8	24.6	90	..	1.2	..	3.8	0	0	14	2	2	1	0	0	1	5	3	17	0	
	0830	"	1010.4	1001.2	..	25.4	22.9	21.6	25.9	81	..	1.7	..	6.1	0	0	21	3	4	1	2	1	3	5	2	10	0	
	1130	"	1010.3	1001.3	..	31.1	23.8	19.9	23.6	53	..	2.4	..	11.2	0	1	27	10	4	4	2	2	3	1	2	3	0	
	1730	"	1007.2	998.2	..	31.2	23.2	18.5	21.8	49	..	2.9	..	13.3	0	3	27	7	5	3	2	2	6	3	2	1	0	
	2330	"	1009.6	1000.5	..	24.8	22.4	21.1	25.2	81	..	1.2	..	6.8	0	0	20	1	3	1	0	2	2	8	3	11	0	
Kandla	0830	14	1010.6	1009.1	..	26.4	23.3	21.7	26.2	76	..	1.8	..	9.3	0	0	30	9	4	1	2	1	1	5	7	1	0	
	1730	"	1007.7	1006.2	..	31.3	24.1	20.2	24.1	54	..	2.9	..	16.0	0	8	23	7	10	2	1	1	9	1	0	0	0	
Mandvi	0830	9	1010.4	1009.3	..	26.4	23.8	22.5	27.4	79	..	3.0	..	14.5	0	6	25	9	6	2	1	1	2	2	6	0	2	
	1730	"	1007.9	1006.8	..	30.0	25.6	23.6	29.1	69	..	4.0	..	21.2	0	15	16	0	4	1	0	1	9	12	2	0	2	
Dwarka	0830	11	1010.3	1009.0	-1.6	26.3	24.7	23.9	29.7	87	+8	2.6	+0.7	9.1	0	2	20	9	3	1	1	0	2	3	3	9	0	
	1730	11	1007.9	1006.6	..	28.3	25.4	24.0	30.2	78	..	2.4	..	13.6	0	1	30	5	1	0	0	1	2	7	15	0	0	
Porbander	0830	7	1009.9	1009.1	..	25.9	23.7	22.6	27.4	82	..	2.8	..	11.8	0	1	30	7	2	1	0	0	1	12	8	0	0	
	1730	"	1007.3	1006.5	..	29.3	25.2	23.2	28.6	71	..	4.4	..	17.2	0	5	26	1	1	1	3	1	3	12	9	0	0	
Porbandar (Aerodrome)	0830	7	1010.0	1009.2	..	26.8	23.7	22.4	26.9	77	..	2.6	..	12.6	0	4	21	12	1	0	2	0	0	4	6	6	0	
	1130	"	1010.2	1009.4	..	30.5	24.3	21.5	25.4	61	..	2.6	..	16.4	0	9	21	6	7	2	3	0	1	3	8	1	0	
	1730	"	1007.4	1006.6	..	29.0	24.1	22.0	25.9	68	..	3.4	..	19.5	0	10	21	3	1	1	1	1	2	17	5	0	0	
Jamnagar	0530	23	1008.4	1005.8	..	23.5	23.7	22.3	26.9	93	..	1.3	..	10.0	0	3	24	3	4	3	3	4	4	5	1	4	0	
	0830	"	1010.2	1007.6	-1.5	26.8	24.5	23.5	28.8	83	+4	2.9	+1.4	13.0	0	7	18	1	5	5	3	1	4	5	1	6	0	
	1130	"	1010.4	1007.9	..	31.1	25.2	22.5	27.3	61	..	3.1	..	21.6	0	15	15	5	12	3	2	0	0	3	5	1	0	
Rajkot (Aerodrome)	0830	138	1010.1	994.5	-1.6	25.1	22.9	21.5	26.1	82	+11	2.2	+0.4	8.5	0	5	14	3	4	1	1	1	3	3	3	12	0	
	1130	"	1009.9	994.5	..	30.2	23.4	19.4	23.4	56	..	2.5	..	14.6	0	7	20	3	12	3	2	0	2	2	3	4	0	
	1730	"	1006.7	991.5	..	30.9	22.8	17.7	21.2	50	..	2.6	..	13.9	0	9	18											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA, 9—KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer (corrected) above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed Km. per hour	Wind speed in (Kms. p.h.)			No. of observations												
			At mean sea level or height in ft. of the standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure normal		62 or more	20 to 61	1 to 19	Wind direction												
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Saurashtra and Kutch —Contd. Mahuva	*0830	9	1009.1	1008.1	..	24.7	22.3	20.9	24.7	80	..	3.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	†1730	..	1006.7	1005.7	..	29.2	25.3	23.5	28.9	74	..	3.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Keshod	0830	51	1010.2	1004.3	..	24.7	22.7	21.7	25.9	83	..	2.5	..	..	0	4	21	5	10	3	0	0	0	3	4	6	0	0	0	
	1130	..	1010.2	1004.4	..	30.0	23.7	20.3	24.3	59	..	3.2	..	..	0	10	21	5	11	4	2	0	0	3	6	0	0	0	0	
Veraval	1730	..	1007.3	1001.5	..	29.7	23.0	19.0	22.7	58	..	3.2	..	..	0	12	18	4	3	1	2	3	2	8	7	1	0	0	0	
	0230	8	1003.0	1007.1	..	24.0	22.3	21.3	25.7	85	..	2.4	..	..	0	5	19	13	3	1	1	0	0	1	5	7	0	0	0	
	0530	..	1007.7	1006.8	..	23.3	21.6	20.5	24.5	85	..	2.2	..	..	0	4	22	15	4	1	1	0	0	0	1	4	5	0	0	0
	0830	..	1009.6	1008.7	-2.0	25.6	23.1	21.8	26.2	81	+15	2.7	+0.9	..	..	0	4	23	13	4	3	1	0	0	0	6	4	0	0	0
	1130	..	1009.9	1009.0	..	30.2	24.1	20.6	25.1	62	..	2.8	..	..	..	0	7	24	8	6	2	2	3	2	5	3	0	0	0	0
Konkan Dahanu	0830	5	1009.6	1009.1	-1.4	25.7	23.7	22.7	27.8	84	+3	3.9	-1.0	9.3	0	1	30	2	2	11	11	2	1	1	1	1	0	0	0	0
	1730	..	1007.5	1007.0	..	27.9	26.0	25.2	32.5	86	..	4.3	..	..	0	5	26	15	0	0	0	3	4	5	4	0	0	0	0	0
Bombay (Colaba)	0830	11	1010.1	1008.9	-1.2	26.2	24.2	23.3	28.7	84	+3	3.8	+0.7	9.4	0	4	26	1	5	9	8	5	0	1	1	1	1	0	0	0
	1130	..	1010.2	1009.0	..	29.4	25.0	22.9	28.1	70	..	3.0	..	..	0	1	27	2	1	6	6	7	2	3	1	3	0	0	0	0
Bombay (Santacruz Aerodrome)	1730	..	1007.6	1006.4	..	28.2	25.0	23.6	28.4	77	..	3.6	..	..	0	0	30	2	0	0	0	4	3	4	17	1	0	0	0	0
	0230	15	1008.2	1006.5	..	23.9	22.9	22.4	27.1	92	..	3.6	..	..	0	0	15	2	3	1	3	3	3	0	0	0	0	0	0	0
	0530	..	1008.2	1006.5	..	23.5	22.6	22.1	26.6	92	..	3.3	..	..	0	0	20	0	5	7	2	3	2	1	0	1	9	0	0	0
	0830	..	1010.3	1008.6	-1.1	26.4	23.7	22.3	27.0	79	-3	3.7	+0.6	..	..	0	0	22	0	6	5	3	3	4	0	1	9	0	0	0
	1130	..	1010.3	1008.7	..	29.7	24.6	22.1	26.8	66	..	3.7	..	..	..	0	4	22	2	2	4	5	5	3	2	3	5	0	0	0
Alibaz	1730	..	1007.6	1005.9	..	28.3	24.5	22.7	27.6	73	..	3.6	..	..	0	2	28	6	0	0	0	0	2	7	4	11	1	0	0	0
	2330	..	1009.7	1008.0	..	24.5	23.3	22.6	27.8	89	..	2.7	..	..	0	1	14	1	2	3	4	2	2	1	0	0	3	0	0	0
Harnai	0830	7	1010.0	1009.2	-1.1	26.3	23.6	22.3	26.8	80	+4	3.7	-0.2	9.5	0	3	25	2	5	5	13	1	1	1	1	0	0	0	0	0
	0630	20	1009.6	1007.3	-0.9	26.5	22.6	21.2	24.3	74	-0	4.1	..	..	0	2	20	2	4	5	5	3	1	1	1	1	0	0	0	0
Ratnagiri	1730	..	1007.5	1005.2	..	28.0	25.0	23.5	29.1	77	..	4.5	..	..	0	11	18	2	0	0	1	4	1	5	16	2	0	0	0	0
	0830	35	1010.3	1006.3	-0.7	25.9	23.5	21.8	27.0	80	..	3.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Devgad	1730	..	1007.7	1003.8	..	28.5	25.1	23.6	29.0	75	..	3.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	36	1010.5	1006.5	-0.3	26.1	23.7	22.6	27.2	82	-2	4.3	+0.1	..	..	0	0	30	0	7	13	7	2	0	1	5	9	15	1	0
Vengurla	1730	..	1007.7	1003.7	..	28.6	25.8	24.4	31.1	79	..	3.9	..	..	0	5	25	0	0	0	0	0	0	1	0	0	2	26	0	0
	0230	9	1008.8	1007.8	..	24.0	23.3	23.0	28.1	94	..	2.9	..	..	0	0	5	2	0	0	0	0	0	0	1	0	1	20	0	0
	0530	..	1008.9	1007.9	..	23.2	22.7	22.5	27.1	94	..	2.3	..	..	0	0	11	6	1	0	1	1	1	2	6	1	12	0	0	0
	0830	..	1010.9	1009.9	..	25.8	23.8	22.7	28.0	84	..	3.4	..	..	..	0	0	19	1	5	4	5	1	2	0	3	1	0	0	0
	1130	..	1010.6	1009.6	..	30.8	25.1	22.8	27.0	67	..	3.7	0	0	30	2	1	4	0	3	16	1	3	1	0	0	0	0
Maharashtra (including Marathwada)	1730	..	1007.9	1006.9	..	28.9	25.2	23.5	29.0	74	..	4.2	..	..	0	0	29	0	0	1	0	1	5	17	5	2	0	0	0	0
	2330	..	1010.3	1009.3	..	24.8	23.9	23.4	29.1	92	..	3.1	..	..	0	0	9	3	2	0	0	1	1	0	2	22	0	0	0	0
	0830	206	1010.5	987.3	..	26.2	22.6	20.6	24.5	73	..	1.7	..	..	0	0	31	0	0	14	2	2	1	9	0	0	0	0	0	0
	1730	..	1006.8	983.9	..	30.3	23.6	20.3	23.7	59	..	2.7	..	..	0	0	31	2	1	10	0	0	0	15	2	0	0	0	0	0
	0830	201	1010.7	987.8	..	24.7	22.0	20.5	24.2	77	..	2.4	..	..	0	0	27	0	2	12	4	0	1	6	2	4	0	0	0	0
Jalgaon	1730	..	1006.4	984.1	..	30.5	22.8	18.3	21.4	51	..	2.7	..	..	0	1	27	6	5	6	1	1	1	5	3	3	0	0	0	
	0830	437	1010.7	961.7	-1.4	23.6	20.4	18.4	21.5	73	+10	1.5	-1.1	3.2	0	0	15	0	1	0	0	0	3	1	6	4	16	0	0	0
Malegon	1730	..	1006.3	958.4	..	29.3	21.2	15.8	18.7	46	..	3.9	..	..	0	0	27	3	8	5	0	0	0	7	3	0	12	0	0	0
	0830	571	1011.2	947.6	..	22.8	20.4	19.1	22.2	80	..	3.7	..	..	0	0	19	6	2	1	0	11	5	3	3	0	0	0	0	0
Deolali	1730	..	1007.5	944.9	..	27.1	21.2	17.7	20.9	61	..	4.5	..	..	0	3	25	0	6	2	1	0	11	5	3	3	0	0	0	
	0830	581	1010.9	946.6	-1.0	24.7	20.9	18.9	21.9	70	+12	2.5	-0.5	..	..	0	0	24	0	1	10	2	2	1	6	2	1	0	0	
Aurangabad	1730	..	1006.8	943.3	..	27.1	21.0	17.8	20.4	59	..	4.2	..	..	0	0	30	6	4	6	3	0	4	5	2	1	0	0	0	
	0230	579	1009.1	944.2	..	20.3	19.1	18.3	21.3	89	..	2.6	..	..	0	0	8	0	0	0	0	0	0	7	1	23	0	0	0	
Aurangabad (Chikal- thana Aerodrome)	0530	..	1009.5	944.3	..	19.1	18.5	18.1	20.9	93	..	2.3	..	..	0	1	11	0	1	0	0	1	0	9	1	19	0	0	0	
	0830	..	1010.4	946.2	..	24.1	20.7	18.9	22.1	74	..	2.6	..	..	0	0														

Division and station	Hours of observation I. S. T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km. p.h.)			No. of observations												
			At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Mean amount				Departure from normal	Mean wind speed Kms. per hour	62 or more	20 to 61	1 to 19	Wind direction												
																	N	NE	E	SE	S	SW	W	NW	Calm	Variable			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Maharashtra (Including Marathwada—Contd. Poona—Contd.)	1130	559	1009.1	948.0	..	28.3	21.2	17.3	20.0	53	..	3.2	..	6.4	0	0	26	2	5	2	3	1	4	5	4	5	0	0	
	1730	..	1006.4	945.3	..	27.8	21.0	17.2	19.9	56	..	4.5	..	4.3	0	0	18	0	2	0	1	1	1	8	5	13	0	0	
	2330	..	1010.1	947.7	..	22.1	19.8	18.6	21.6	81	..	3.6	..	1.3	0	0	6	0	0	1	0	0	1	3	1	25	0	0	
	Poona (Lohagaon Aerodrome)	0230	593	1009.2	942.7	..	20.4	19.0	18.0	21.0	87	..	3.1	..	2.2	0	0	8	0	0	0	0	0	0	0	7	1	23	0
		0530	..	1009.4	942.8	..	19.6	18.3	17.5	20.2	89	..	2.9	..	3.0	0	0	11	0	0	1	0	0	0	8	2	20	0	0
		0830	..	1010.8	944.8	..	22.9	19.8	17.8	20.7	73	..	3.6	..	6.8	0	0	21	0	0	4	3	1	1	10	2	10	0	0
	Baramati	1130	..	1009.3	944.5	..	28.0	21.0	16.5	19.8	53	..	3.9	..	16.5	0	10	19	0	1	7	5	0	5	10	1	2	0	0
		1730	..	1006.4	941.6	..	27.3	20.3	15.5	18.6	53	..	4.4	..	11.4	0	5	20	0	3	4	1	0	1	13	3	6	0	0
	Jeur	0830	551	1010.9	949.5	..	22.9	19.9	18.3	21.0	76	..	3.2	..	5.4	0	0	21	2	0	2	2	2	1	6	6	10	0	0
		1730	..	1005.8	945.9	..	29.0	22.0	18.1	21.4	55	..	4.1	..	12.0	0	2	29	2	5	6	2	2	4	4	6	0	0	0
Sholapur	0830	521	1010.3	952.4	..	23.5	20.4	18.6	21.8	75	..	2.3	..	7.9	0	0	25	0	1	4	2	5	1	3	9	6	0	0	
	1730	..	1005.5	948.7	..	29.0	21.6	17.5	20.3	52	..	3.3	..	10.7	0	2	29	3	5	3	2	3	3	4	8	0	0	0	
	0530	479	1009.4	955.5	..	21.2	19.6	18.6	21.6	86	..	2.9	..	4.3	0	0	24	3	5	3	3	1	3	1	5	7	0	0	
	0830	..	1010.7	957.3	-0.8	24.5	21.1	19.2	22.6	74	+10	3.4	+0.3	7.8	0	0	27	0	6	0	6	0	9	0	6	4	0	0	
Miraj	1130	..	1009.6	956.9	..	28.5	22.1	18.7	22.0	55	..	3.9	..	12.8	0	4	25	5	5	4	6	1	4	1	3	2	0	0	
	1730	..	1005.8	953.6	..	29.7	22.4	18.4	21.9	54	..	4.7	..	8.5	0	0	30	0	14	0	2	0	11	2	1	1	0	0	
	2330	..	1009.7	956.3	..	24.0	20.6	18.7	21.9	74	..	3.1	..	6.1	0	0	29	0	8	4	3	0	4	3	7	2	0	0	
	0830	554	1010.5	948.9	-1.0	23.0	20.3	18.9	21.8	79	+7	4.1	+0.1	..	..	..	..	..	0	0	3	0	0	0	11	0	17	0
Kolhapur	1730	..	1005.7	945.6	..	29.0	21.5	17.4	20.2	52	..	4.5	..	..	..	..	..	..	0	0	3	0	0	3	17	1	7	0
	0530	570	1009.4	945.4	..	19.9	18.6	17.7	20.3	88	..	2.3	..	7.7	0	1	23	2	2	4	3	1	3	6	3	7	0	0	
	0830	..	1010.7	947.3	-0.6	23.1	20.1	18.2	21.3	75	-8	4.6	+1.3	9.8	0	1	29	0	10	5	0	0	8	5	2	1	0	0	
Vidharbha	1130	..	1009.1	946.8	..	28.1	21.4	17.8	20.6	55	..	5.0	..	18.1	0	13	18	0	7	8	1	0	7	4	4	0	0	0	
	1730	..	1006.4	944.1	..	27.0	21.1	17.8	20.7	60	..	5.2	..	14.9	0	6	25	2	7	3	1	0	5	7	6	0	0	0	
Buldhana	0830	650	1009.9	938.0	..	23.1	19.9	18.0	21.0	75	..	3.4	..	3.1	0	0	20	0	0	0	0	0	0	2	0	18	11	0	
	1730	..	1006.0	935.3	..	27.4	20.8	17.0	19.7	56	..	4.1	..	2.2	0	0	19	0	0	0	0	0	0	2	0	17	12	0	
Akola	0830	282	1010.3	978.6	-1.3	24.6	21.8	20.2	23.9	78	+17	3.9	+1.5	1.8	0	0	16	2	0	5	1	0	2	3	3	15	0	0	
	1130	..	1009.4	978.2	..	29.6	23.4	20.1	23.8	59	..	3.9	..	2.5	0	0	19	1	2	4	1	1	2	4	4	12	0	0	
Akola (Aerodrome)	1730	..	1005.7	974.7	..	30.3	22.9	18.2	21.6	51	..	3.6	..	1.6	0	0	16	3	1	3	0	0	2	6	1	15	0	0	
	0530	309	1008.1	973.0	..	21.7	20.5	19.7	23.2	89	..	3.6	..	1.5	0	0	12	0	1	4	0	0	0	6	1	19	0	0	
Amravati	2330	..	1008.7	973.8	..	23.9	21.1	19.2	22.8	77	..	2.4	..	1.9	0	0	13	1	0	7	2	0	1	1	1	18	0	0	
	0830	370	1010.3	968.9	-1.3	25.4	22.1	20.3	23.8	75	+17	2.9	+0.5	7.4	0	0	26	1	10	3	2	0	2	7	1	5	0	0	
Yeotmal	1730	..	1005.9	965.2	..	28.7	22.5	19.1	22.1	58	..	5.5	..	8.6	0	0	31	2	11	0	9	0	4	1	4	0	0	0	
	0830	451	1010.0	959.7	..	25.0	21.8	20.1	23.5	75	..	3.3	..	4.6	0	0	27	3	5	5	2	2	0	6	4	4	0	0	
Nagpur	1730	..	1006.5	956.9	..	28.7	22.2	18.5	21.6	56	..	3.1	..	4.4	0	0	28	3	5	5	1	2	4	4	4	3	0	0	
	0230	310	1007.9	972.8	..	22.6	21.4	20.7	24.5	89	..	2.2	..	2.5	0	0	14	2	5	0	0	0	0	1	6	17	0	0	
	0530	..	1008.5	973.3	..	21.7	20.9	20.5	24.0	93	..	3.5	..	1.7	0	0	11	1	3	0	0	0	0	0	7	20	0	0	
	0830	..	1010.2	975.4	-1.4	25.2	22.5	21.1	25.1	79	+11	3.7	+1.3	4.2	0	0	21	4	7	3	0	1	1	1	4	10	0	0	
	1130	..	1009.0	974.7	..	29.6	23.5	20.3	24.0	59	..	4.6	..	6.6	0	0	27	2	5	4	3	0	4	2	7	4	0	0	
Gondia	1730	..	1006.3	971.9	..	28.5	22.7	19.4	22.7	60	..	4.3	..	4.1	0	0	19	3	8	3	0	0	1	1	3	12	0	0	
	2330	..	1009.2	974.2	..	23.5	21.7	20.8	24.6	85	..	2.9	..	2.0	0	0	14	4	4	0	1	0	0	2	3	17	0	0	
	0830	313	1010.3	975.2	..	24.9	22.6	21.4	26.1	81	..	4.6	..	3.4	0	0	25	2	11	0	2	1	1	0	6	6	2	0	
Brahmapuri	1730	..	1006.4	971.8	..	28.7	23.0	19.9	24.7	61	..	4.7	..	4.3	0	0	25	1	7	0	5	1	4	1	6	6	0	0	
	0830	229	1009.7	984.5	..	25.1	23.0	22.0	26.2	83	..	4.4	..	4.4	0	0	28	1	11	2	5	1	4	0	4	3	0	0	
Chanda	1730	..	1006.1	980.7	..	28.5	24.0	21.5	26.1	68	..	5.2	..	5.1	0	0	27	11	6	4	3	0	2	0	1	4	0	0	
	0830	193	1010.1	988.2	-1.6	25.9	23.3	22.1	26.8	79	+6	3.8	+1.5	4.3	0	0	26	6	6	2	1	2	3	3	3	5	0	0	
Sironcha	1730	..	1006.4	994.8	..	28.1	24.2	22.3	27.0	71	..	4.3	..	4.0	0	0	18	2	5	2	0	4	3	1	1	13	0	0	
	0830	123	1010.3	996.3	..	26.4	23.7	22.3	27.1	78	..	4.7	..	4.4	0	0	27	3	4	4	6	3	3	2	2	4	0	0	
Coastal Andhra Pradesh	1730	..	1006.1	992.4	..	29.7	24.2	21.3	26.1	62	..	4.5	..	5.7	0	0	27	5	10	3	3	0	3	1	2	4	0	0	
	0530	20	1007.4	10																									

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9—KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer stem above mean sea level in metres	Mean pressure in millibar			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Coastal Andhra Pradesh— Contd. Rentschintala	0830	106	1010.0	998.0	..	27.5	24.3	23.1	28.3	77	-4.3	4.9	-0.2	3.2	0	0	22	3	0	3	0	0	3	8	0	9	0	
	1730	"	1006.4	994.4	..	30.0	24.4	22.0	26.4	63	..	5.9	..	3.0	0	0	25	5	0	5	5	0	1	8	1	6	0	
Gannavaram	0230	24	1007.0	1004.3	..	25.3	24.7	24.4	30.5	94	..	4.6	..	5.1	0	2	12	1	2	4	0	0	0	2	5	17	0	
	0530	"	1007.4	1004.7	..	25.1	24.3	24.0	29.8	93	..	5.8	..	4.7	0	0	20	2	6	4	0	0	1	3	1	11	0	
	0830	"	1009.6	1006.9	..	27.4	25.4	24.3	30.7	84	..	5.6	..	10.0	0	2	25	2	6	5	0	1	2	6	5	4	0	
	1130	"	1008.7	1006.0	..	29.4	25.7	24.1	30.0	74	..	6.2	..	11.6	0	3	25	3	4	8	2	0	1	7	3	3	0	
	1730	"	1006.3	1003.6	..	28.7	25.7	24.3	30.4	78	..	6.3	..	8.3	0	1	26	1	3	7	8	2	1	2	5	4	0	
Masulipatam	2330	"	1008.8	1006.1	..	26.2	24.9	24.5	30.7	92	..	4.5	..	4.6	0	1	17	1	5	4	3	1	1	3	0	13	0	
	0530	3	1007.3	1007.0	..	25.5	24.8	24.4	30.5	94	..	5.2	..	5.8	0	1	28	5	6	0	0	4	6	4	4	2	0	
	0830	"	1009.6	1009.3	-1.2	27.5	25.5	24.7	31.1	85	+5	5.3	-1.5	10.5	0	1	28	2	6	2	0	6	1	9	3	2	0	
	1130	"	1008.9	1008.6	..	29.0	25.8	24.4	30.5	77	..	5.9	..	12.1	0	1	30	2	6	2	2	4	6	5	4	0	0	
	1730	"	1006.3	1006.0	..	28.4	25.5	24.2	30.2	79	..	5.9	..	8.7	0	2	26	3	3	2	4	7	3	5	1	3	0	
Nidadavolu	2330	"	1008.6	1008.3	..	26.4	24.9	23.3	30.4	89	..	4.7	..	6.7	0	0	30	1	6	1	6	5	4	4	3	1	0	
	0830	12	1009.6	1008.2	..	26.9	25.3	24.7	31.1	88	..	6.4	..	9.0	0	2	26	8	6	4	0	0	2	5	3	3	0	
Kakinada	1730	"	1006.5	1005.1	..	27.6	25.4	24.5	30.7	84	..	6.9	..	9.4	0	0	30	3	3	10	1	1	7	3	2	1	0	
	0830	8	1009.8	1008.9	-1.0	28.4	26.3	25.3	32.2	84	+7	5.7	+1.6	8.6	0	1	29	0	12	0	2	0	14	0	2	1	0	
Visakhapatnam	1730	"	1006.7	1005.5	..	28.5	25.8	24.6	30.9	80	..	5.8	..	9.6	0	1	30	0	8	1	10	0	9	0	3	0	0	
	0230	3	1007.4	1007.0	..	25.7	24.9	24.5	30.1	94	..	4.7	..	1.8	0	1	4	0	2	1	0	1	1	0	0	16	0	
	0530	"	1007.8	1007.4	..	25.2	24.6	24.3	30.3	95	..	5.6	..	2.0	0	2	4	2	2	0	0	0	1	1	0	15	0	
	0830	"	1009.8	1009.4	-1.1	27.6	25.5	24.4	30.5	82	+5	5.2	+0.9	2.8	0	1	8	1	0	2	1	1	3	0	1	12	0	
	1130	"	1008.7	1008.3	..	30.2	26.2	24.5	30.7	73	..	5.5	..	7.8	0	1	25	2	2	5	9	0	8	0	0	5	0	
Calingapatam	1730	"	1007.0	1006.6	..	27.5	25.4	24.4	30.5	84	..	5.7	..	6.4	0	1	17	0	3	5	7	0	2	0	1	13	0	
	2330	"	1009.1	1008.7	..	26.1	25.1	24.7	31.1	92	..	5.1	..	2.8	0	1	10	0	1	6	1	0	1	1	0	21	0	
	0830	6	..	..	..	..	..	..	..	..	..	5.4	+2.0	5.9	0	0	31	0	3	4	1	3	3	9	3	0	0
	1730	"	..	..	..	..	..	..	..	..	..	5.9	..	7.6	0	1	30	0	6	9	5	5	5	1	0	0	0
Telangana Ramagundam	0830	156	1009.7	992.1	..	26.7	23.8	22.4	27.1	77	..	4.2	..	3.9	0	0	26	8	2	0	5	1	2	2	6	5	0	
	1730	"	1006.0	988.6	..	30.3	24.0	20.9	24.6	59	..	4.3	..	3.9	0	0	25	10	7	1	1	0	1	2	3	6	0	
Nizamabad	0830	381	1030.1	967.7	-1.0	26.2	22.8	21.2	25.2	76	+6	(a) 3.4	+0.8	2.0	0	0	14	1	1	2	0	1	3	6	0	16	0	
	1730	"	1005.8	963.8	..	29.0	24.0	21.4	25.5	63	..	(b) 3.8	..	2.2	0	0	13	3	7	1	0	0	1	1	0	13	0	
Mahabubnagar	0830	505	1010.0	953.9	..	24.9	21.8	20.3	23.8	76	..	4.5	..	11.3	0	0	31	3	7	7	0	0	0	3	11	0	0	
	1730	"	1005.7	950.9	..	28.3	22.3	19.3	22.4	60	..	4.9	..	4.8	0	0	28	2	8	4	1	0	2	6	5	3	0	
Hyderabad (Begumpet Aerodrome)	0230	545	1008.1	947.4	..	21.9	20.5	19.9	23.2	89	..	4.1	..	6.1	0	0	19	2	2	1	2	0	0	0	8	1	12	0
	0530	"	1008.7	947.8	..	21.0	20.1	19.6	22.8	92	..	4.1	..	6.6	0	1	22	3	4	1	2	0	0	7	6	8	0	
	0830	"	1010.2	949.9	-0.5	24.5	21.4	19.8	23.1	76	+5	4.5	+1.1	11.6	0	2	26	3	3	2	6	1	1	3	9	3	0	
	1130	"	1008.7	949.2	..	28.1	22.0	18.8	21.7	58	..	4.8	..	13.1	0	2	29	3	6	5	3	1	1	4	7	0	1	
	1730	"	1006.0	946.6	..	28.0	21.6	18.3	21.0	57	..	4.9	..	10.4	0	1	99	3	8	6	1	1	2	5	4	1	0	
Hakimpet	2330	"	1009.5	949.0	..	23.0	21.2	20.3	23.8	85	..	4.5	..	5.3	0	0	21	3	4	3	3	0	1	4	3	10	0	
	0530	613	1003.6	940.3	..	21.2	20.3	19.7	22.9	91	..	4.0	..	7.2	0	1	28	4	5	2	3	0	2	10	3	2	0	
	0830	"	1009.7	942.0	..	24.9	21.3	19.9	23.2	79	..	4.5	..	9.7	0	0	31	1	5	5	5	0	3	7	5	0	0	
	1130	"	1008.5	941.6	..	27.4	22.1	19.4	22.5	63	..	4.9	..	12.0	0	2	29	2	5	6	5	0	2	5	6	0	0	
	1730	"	1006.2	939.3	..	27.3	21.9	18.9	21.8	61	..	4.7	..	9.5	0	1	30	6	7	5	2	0	3	4	4	0	0	
Hanamkonda	0830	269	1009.7	979.7	-1.4	26.2	23.4	22.0	26.4	79	+6	3.1	-0.2	4.5	0	0	31	6	4	3	4	6	0	2	6	0	0	
	1730	"	1006.3	976.8	..	29.4	23.6	20.5	24.1	61	..	3.3	..	4.1	0	0	31	9	8	5	1	2	0	2	4	0	0	
Bhadrachallam	0830	111	1009.9	997.4	..	27.3	24.8	23.6	29.1	81	..	4.9	..	3.8	0	0	27	5	7	4	2	4	1	1	3	4	0	
	1730	"	1006.0	993.6	..	29.6	25.3	23.2	24.1	71	..	5.4	..	3.7	0	0	31	7	8	6	1	1	0	1	7	0	0	
Khanamameth	0830	112	1009.3	997.0	..	26.9	24.8	23.8	29.5	84	..	5.3	..	3.6	0	0	18	4	0	4	2	1	2	3	2	13	0	
	1730	"	1005.9	993.4	..	29.5	25.0	22.8	27.8	69	..	6.2	..	3.6	0	1	18	3	3	5	1	1	1	5	0	12	0	
Rayalaseema Aroyavaram	0830	701	1010.3	933.2	..	23.5	21.1	19.8	23.1	80	..	5.5	..	4.5	0	0	20	6	2	0	3	0	1	2	6	11	0	
	1730	"	1005.9	929.9	..	26.5	22.1	20.1	23.5	69	..	5.9	..	5.2	0	0	26	7	6	2	1	0	0	2	8	5	0	
Cuddapah	0830	130	1010.7	996.0	-0.3	27.9	24.1	22.2	26.1	72	-1																	

Division and station	Hour of observation I.S.T.	Height of barometer, cistern above mean sea level in metres	Mean pressure in millibars.			Mean temperature in °C.			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (km p.h.)			No. of observations											
			At mean sea level or height in fms. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, km. per hour	Wind direction.			Wind direction.										
															62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Madras State																												
Palayanacottai	0830	51	1010.2	1004.4	..	28.8	23.8	21.2	25.2	66	..	4.9	..	7.0	0	2	29	12	1	1	0	1	0	13	3	0	0	0
	1730	..	1006.2	1000.5	..	29.5	24.2	21.5	25.6	64	..	6.4	..	7.6	0	0	30	4	1	2	3	2	2	12	4	1	0	0
Tuticorin	0830	4	1010.3	1009.9	..	28.8	24.4	22.3	26.9	69	..	4.8	..	9.5	0	3	28	7	7	3	1	0	1	9	3	0	0	0
	1730	..	1006.6	1006.2	..	29.8	25.3	23.2	28.4	69	..	3.9	..	17.4	0	9	22	1	4	2	7	11	0	5	1	0	0	0
Pamban	0830	11	1010.0	1008.7	-0.6	28.0	26.1	25.4	32.4	86	+6	4.6	+1.0	7.5	0	2	23	2	3	2	1	9	4	3	1	6	0	0
	1730	..	1006.4	1005.1	..	28.5	26.0	24.9	34.5	81	..	4.0	..	7.1	0	0	28	3	0	2	4	13	5	0	1	3	0	0
Tondi	0830	5	1009.9	1009.3	..	27.4	24.9	23.8	29.5	81	..	5.2	..	5.9	0	0	16	9	2	2	0	2	0	0	0	1	15	0
	1730	..	1006.4	1005.8	..	28.7	25.7	24.3	30.4	78	..	5.4	..	22.3	0	17	13	5	1	2	11	19	1	0	0	1	0	0
Madhurai	0830	133	1010.0	995.0	-0.9	27.1	24.0	22.5	27.3	77	+3	6.6	+1.5	4.5	0	0	30	0	8	0	0	0	0	0	0	27	1	0
	1730	..	1006.0	991.2	..	30.3	25.1	22.7	27.6	66	..	7.4	..	6.7	0	0	30	0	11	0	1	0	6	0	12	1	0	0
Madhurai (Aerodrome)	0530	131	1008.3	993.2	..	24.8	22.9	21.9	26.3	85	..	5.2	..	3.6	0	0	19	15	1	0	0	0	1	2	0	12	0	0
	0830	..	1010.1	995.1	..	27.4	23.6	21.7	25.9	72	..	4.4	..	8.5	0	0	27	20	5	0	0	0	0	1	1	4	0	0
	1130	..	1009.1	994.3	..	30.7	24.5	21.3	25.3	59	..	4.5	..	8.7	0	0	28	13	9	1	0	1	2	2	1	2	1	0
	1730	..	1006.3	991.5	..	29.3	24.1	21.5	25.6	65	..	6.4	..	11.5	0	4	23	5	3	3	3	4	4	5	0	4	0	0
Nagapattinam	0830	9	1010.0	1008.9	-0.7	27.3	24.8	23.7	29.3	81	+2	5.3	+0.3	8.5	0	0	27	1	1	0	1	0	9	11	4	4	0	0
	1730	..	1006.6	1005.5	..	29.2	25.9	24.4	30.5	76	..	5.3	..	16.6	0	2	29	1	6	5	8	6	1	0	4	0	0	0
Tiruchirappalli	0230	88	1007.5	997.5	..	25.4	23.5	22.5	27.3	85	..	5.5	..	12.2	0	7	18	1	5	3	1	0	1	13	6	1	0	0
	0530	..	1008.1	998.1	..	24.8	23.2	22.4	27.1	87	..	5.0	..	12.4	0	5	25	4	3	2	1	0	0	0	15	5	2	0
	0830	..	1009.9	999.9	-1.1	26.9	23.8	22.3	26.9	77	-2	5.1	+0.6	16.0	0	5	24	3	5	1	0	0	0	15	5	2	0	0
	1130	..	1008.7	998.9	..	30.0	24.8	22.4	27.1	65	..	5.0	..	17.9	0	9	21	5	5	0	1	0	0	11	8	1	0	0
	1730	..	1005.9	996.1	..	30.0	24.5	21.8	26.1	64	..	6.2	..	11.3	0	3	26	4	7	2	4	1	0	5	6	2	1	0
	2330	..	1009.3	999.3	..	26.0	24.0	22.9	27.9	84	..	5.0	..	12.3	0	7	17	2	4	4	2	3	1	7	1	7	0	0
Coimbatore	0830	409	1010.4	964.7	-0.7	24.8	22.2	20.9	24.7	79	-2	6.7	+2.4	15.2	0	1	30	0	4	5	0	8	12	1	1	0	0	0
	1730	..	1006.2	960.8	..	27.5	23.2	21.1	25.0	69	..	6.7	..	14.1	0	3	28	1	4	4	2	7	11	2	0	0	0	0
Coimbatore (P. Chamedu Aerodrome)	0530	400	1009.0	964.1	..	22.2	21.7	21.5	25.6	95	..	5.8	..	8.3	0	2	22	0	1	1	0	13	4	2	3	7	0	0
	0830	..	1010.5	965.8	..	24.7	22.6	21.5	25.6	83	..	5.5	..	11.6	0	3	26	0	8	3	2	9	6	1	0	2	0	0
	1130	..	1009.2	965.1	..	28.2	23.4	20.9	24.7	65	..	5.8	..	14.3	0	8	23	0	9	4	7	7	4	0	0	0	0	0
	1730	..	1006.3	962.3	..	27.5	23.4	21.3	25.3	70	..	6.1	..	21.0	0	14	15	0	9	1	3	8	7	1	0	2	0	0
	2330	..	1009.9	965.1	..	23.3	22.5	22.0	26.4	92	..	5.1	..	14.5	0	9	19	0	2	2	1	9	14	0	0	3	0	0
Salem	0530	278	1008.6	977.3	..	23.6	22.3	21.6	25.8	89	..	6.7	..	2.6	0	0	14	0	2	1	0	0	8	2	1	17	0	0
	0830	..	1010.1	978.9	-0.9	26.4	23.1	21.8	26.1	79	+1	5.4	+0.8	3.9	0	0	23	1	2	4	0	1	9	5	1	8	0	0
	1130	..	1008.6	977.9	..	29.7	23.8	20.8	24.6	60	..	6.4	..	4.9	0	0	24	2	4	3	0	0	2	9	4	7	0	0
	1730	..	1005.4	974.7	..	29.9	23.9	20.8	24.6	61	..	6.6	..	2.7	0	0	18	0	4	5	0	0	0	7	2	13	0	0
	2330	..	1009.2	978.1	..	25.9	23.1	21.6	25.8	78	..	6.0	..	4.1	0	0	14	0	7	1	0	0	2	4	0	17	0	0
Kallakurichi	0830	127	1009.7	995.4	..	27.5	24.3	22.8	27.7	76	..	4.1	..	2.5	0	0	13	6	2	0	1	1	2	0	1	18	0	0
	1730	..	1005.6	991.5	..	29.9	24.5	22.0	26.4	65	..	5.9	..	5.4	0	0	26	10	2	4	2	2	4	1	1	5	0	0
Cuddalore	0530	12	1007.6	1006.3	..	25.4	24.1	23.6	29.1	90	..	5.3	..	1.5	0	0	8	0	3	0	1	2	6	4	2	8	0	0
	0830	..	1009.5	1008.1	-1.2	27.7	24.8	23.5	28.9	79	-2	5.4	+0.8	2.6	0	0	23	4	4	0	1	2	6	4	2	16	0	0
	1130	..	1008.7	1007.4	..	30.7	25.5	23.1	28.3	66	..	5.7	..	2.0	0	0	15	0	3	0	1	2	0	3	2	2	16	0
	1730	..	1006.1	1004.8	..	28.8	25.6	24.4	30.5	78	..	5.9	..	5.0	0	1	24	2	6	2	12	1	1	0	1	6	0	0
	2330	..	1008.9	1007.6	..	27.0	25.3	24.5	30.7	86	..	4.9	..	1.7	0	0	12	0	3	0	6	2	1	0	0	19	0	0
Tirupattur	0830	390	1010.0	966.5	..	25.1	22.6	21.3	25.3	80	..	5.9	..	1.0	0	0	9	4	0	0	0	3	2	0	0	9	0	0
	1730	..	1005.7	962.8	..	28.5	23.7	21.3	25.3	67	..	6.6	..	3.2	0	0	22	14	0	0	0	4	4	0	0	9	0	0
Vellore	0530	214	1008.3	984.0	..	24.1	22.6	21.9	26.3	88	..	5.4	..	2.5	0	0	19	0	5	2	0	1	2	7	2	12	0	0
	0830	..	1010.0	985.9	-0.4	26.2	23.5	22.2	26.7	80	0	5.6	+1.8	3.1	0	0	21	3	4	0	1	0	1	0	9	5	1	0
	1130	..	1008.7	984.9	..	29.5	24.3	21.7	25.9	64	..	6.1	..	8.2	0	0	30	3	9	1	1	2	0	9	5	1	0	0
	1730	..	1005.6	981.9	..	29.5	24.2	21.6	25.8	63	..	6.3	..	9.1	0	0	28	3	9	5	2	4	1	0	4	3	0	0
	2330	..	1009.1	985.1	..	26.2	23.8	22.6	27.4	81	..	4.0	..	2.6	0	0	20											

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9—KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed km. per hour	Wind speed (Km.p.h.)			No. of observations										
			At mean sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		Wind direction			Wind direction										
															N	NE	E	SE	S	SW	W	NW	Calm	Variable				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Coastal Mysore Karwar	0830	4	1010.8	1010.3	-0.3	25.9	23.7	22.5	27.3	82	..	8.0	..	1.3	0	0	9	0	3	1	3	2	0	0	0	0	22	0
	1730	"	1007.8	1007.3	..	28.3	25.5	24.0	29.8	78	..	8.0	..	5.9	0	0	23	0	0	0	1	0	1	4	17	8	0	0
Honavar	0830	26	1010.8	1007.9	-0.7	24.8	23.1	22.2	26.7	88	+2	5.9	+1.0	3.1	0	0	28	1	5	22	0	0	0	0	0	3	0	0
	1730	"	1007.6	1004.7	..	28.8	25.3	23.8	29.5	75	..	5.4	..	8.5	0	0	31	1	0	0	1	4	3	16	6	0	0	0
Mangalore	0830	22	1010.5	1008.0	-0.7	26.6	24.5	23.5	28.9	83	-1	5.1	+0.3	4.7	0	0	31	4	11	10	4	1	0	1	0	0	0	0
	1730	"	1007.8	1005.3	..	27.6	24.8	23.5	28.9	78	..	5.4	..	6.5	0	0	31	2	2	1	1	0	3	9	12	0	1	0
Mangalore (Bajpe Aerodrome)	0230	102	1008.6	997.0	..	23.9	23.4	23.1	28.3	95	..	5.4	..	2.0	0	0	13	0	1	4	5	0	0	0	0	1	10	0
	0530	"	1008.8	997.2	..	23.5	22.9	22.7	27.6	95	..	4.4	..	3.5	0	0	21	1	0	13	6	0	0	0	1	0	4	0
	0830	"	1010.7	999.2	..	25.4	23.9	23.2	28.4	88	..	5.6	..	4.7	0	0	27	0	4	16	6	0	0	1	0	4	0	0
	1130	"	1010.1	998.7	..	28.8	24.6	22.6	27.4	70	..	5.6	..	6.6	0	0	27	3	1	1	5	2	1	7	7	4	0	0
	1730	"	1007.6	996.1	..	27.0	24.3	23.0	28.1	79	..	6.2	..	10.5	0	0	29	1	1	0	0	1	1	12	13	2	0	0
	2330	"	1010.2	998.6	..	24.6	23.7	23.3	28.6	92	..	5.6	..	3.3	0	0	18	5	2	3	3	0	0	2	3	13	0	0
Interior Mysore (North) Bidar	0830	664	1010.3	936.8	..	22.9	20.4	19.1	22.1	80	+10	3.9	+0.9	14.3	0	5	26	1	7	2	6	0	4	3	8	0	0	0
	1730	"	1005.5	933.5	..	27.3	21.1	17.7	20.2	58	..	4.9	..	10.8	0	0	31	4	11	0	1	1	4	5	5	0	0	0
Sulbarga	0830	458	1010.6	959.6	-0.6	25.1	21.5	19.6	22.8	73	+7	4.2	+1.6	13.5	0	0	30	3	3	8	1	1	4	5	5	1	0	0
	1730	"	1005.6	955.5	..	29.2	21.9	18.0	20.6	54	..	5.9	..	24.6	0	18	12	2	9	4	1	0	1	7	6	1	0	0
Bijapur	0830	594	1010.8	944.7	-0.8	23.0	20.1	18.5	21.3	76	+8	4.8	+1.9	6.9	0	0	30	5	3	2	1	1	7	6	5	1	0	0
	1730	"	1005.1	940.8	..	29.0	21.0	16.4	18.6	48	..	5.5	..	4.0	0	0	28	7	5	2	1	0	5	5	3	3	0	0
Belgaum	0830	753	1010.7	928.0	-0.5	22.5	20.0	18.5	21.3	79	+2	3.8	-0.1	7.5	0	0	30	3	7	4	1	0	5	5	5	1	0	0
	1730	"	1006.4	924.9	..	25.9	20.4	17.2	19.6	62	..	5.0	..	9.1	0	0	31	1	8	2	2	0	1	14	3	0	0	0
Belgaum (Sambre Aerodrome)	0530	747	1009.7	926.8	..	20.0	18.8	18.3	21.0	90	..	2.9	..	2.6	0	0	11	0	0	3	0	0	2	2	4	20	0	0
	0830	"	1011.1	928.7	..	22.3	19.9	18.6	21.4	81	..	4.1	..	9.8	0	5	19	1	4	7	0	0	4	4	4	7	0	0
	1130	"	1009.5	928.4	..	26.7	21.5	19.1	22.1	64	..	4.4	..	14.6	0	8	22	1	5	11	0	0	5	5	3	1	0	0
Gadag	0830	650	1010.6	938.8	-0.5	23.6	20.7	19.2	22.2	76	+1	4.0	-0.1	10.8	0	1	26	2	3	6	0	0	2	12	2	4	0	0
	1730	"	1005.6	935.5	..	28.9	21.5	17.8	20.5	52	..	5.4	..	10.8	0	0	29	1	9	1	1	0	3	12	2	2	0	0
Gadag (P.B.O.)	0530	661	1009.2	936.1	..	21.1	19.2	18.4	21.0	85	..	3.8	..	9.8	0	1	27	0	4	4	1	0	6	12	1	3	0	0
	0830	"	1010.5	937.5	..	23.5	20.6	19.2	22.2	78	..	4.1	..	10.1	0	1	29	0	6	4	1	0	5	12	2	1	0	0
	1130	"	1009.0	937.1	..	27.8	21.5	18.5	21.3	59	..	5.3	..	12.1	0	2	26	1	6	4	0	0	5	10	2	3	0	0
	1730	"	1005.6	934.1	..	27.9	21.5	18.0	21.4	59	..	5.2	..	13.1	0	3	28	2	7	4	1	0	5	9	3	0	0	0
	2330	"	1009.8	936.8	..	23.2	20.8	19.6	22.8	82	..	3.7	..	11.9	0	1	29	0	4	4	2	0	6	14	0	1	0	0
Raichur	0830	400	1009.8	965.3	-1.2	24.8	21.7	20.0	23.4	76	+6	4.3	+1.6	5.9	0	0	30	0	9	0	5	0	7	1	8	1	0	0
	1730	"	1004.9	961.1	..	30.6	22.2	17.0	19.4	47	..	4.5	..	7.1	0	0	29	0	14	0	2	1	2	0	10	2	0	0
Interior Mysore (South) Bilhari	0830	449	1010.4	960.4	-0.6	25.3	21.8	19.9	23.2	72	+3	4.6	+0.5	5.1	0	0	24	2	4	0	6	0	2	0	10	7	0	0
	1730	"	1005.0	956.1	..	30.6	22.3	17.8	20.4	47	..	4.6	..	7.3	0	0	30	0	10	2	5	0	1	0	12	1	0	0
Chitaldrug	0830	733	1010.5	929.8	-0.5	22.5	20.1	18.8	21.7	83	+5	6.1	+1.5	7.1	0	0	28	1	1	7	1	0	7	11	0	3	0	0
	1730	"	1005.4	926.3	..	27.3	20.7	17.1	19.5	55	..	5.2	..	3.7	0	0	23	1	2	7	0	0	1	12	0	8	0	0
Shimoga	0830	571	1010.9	947.4	..	22.7	20.8	19.8	23.1	84	..	5.5	..	2.3	0	0	18	0	3	4	3	3	3	1	1	13	0	0
	1730	"	1006.1	943.8	..	26.9	21.9	19.5	22.7	64	..	5.3	..	4.8	0	0	26	1	4	3	0	0	7	8	3	5	0	0
Balehonnur	0830	..	..	..	..	19.0	18.4	18.0	20.6	94	+2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hassan	0830	960	1509.3	906.1	..	20.8	19.3	18.5	21.3	87	+7	6.3	+1.4	5.1	0	0	21	2	0	3	1	0	2	13	0	10	0	0
	1730	"	1488.1	903.1	..	24.5	20.5	18.4	21.1	70	..	5.9	..	7.7	0	1	22	2	3	1	0	0	1	16	0	8	0	0
Mysore	0830	767	1010.8	926.3	-0.6	22.2	20.3	19.3	22.4	84	+3	6.0	+0.6	5.8	0	0	28	1	3	5	2	1	5	8	3	3	0	0
	1730	"	1006.0	923.1	..	26.3	21.4	18.9	21.8	66	..	6.0	..	5.1	0	0	24	3	2	5	0	2	1	8	3	7	0	0
Bangalore (Central Observatory)	0230	921	1486.6	907.9	..	20.4	19.5	19.1	22.1	92	..	5.5	..	9.9	0	0	29	0	2	10	1	1	1	14	0	2	0	0
	0830	"	1507.9	910.0	-0.5	21.6	19.6	18.6	21.4	83	+2	6.5	+1.2	10.8	0	0	31	1	3	7	3	0	2	12	3	0	0	0
	1130	"	1510.2	909.4	..	25.3	20.7	18.4	21.1	65	..	6.7	..	10.4	0	0	31	3	8	3	3	0	2	5	7	0	0	0
	1730	"	1486.5	906.9	..	25.5	20.6	18.1	20.8	65	..	6.3	..	9.9	0	1	29	1	5	5	5	0	3	3	8	1	0	0
	0530	897	1488.5	910.7	..	20.2	19.4	19.0	22.0	93	..	5.9	..	8.8	0	0	25	1	1	6	1	0	6	10	0	6	0	0
Bangalore (Aerodrome)	0830	"	1509.7	912.5																								

Divisions and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea & p.m. of the nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Kerala—Contd. Kozhikode (Contd.)	1730	5	1008.1	1007.5	..	27.4	25.2	24.1	30.0	82	..	5.8	..	10.1	0	0	31	3	1	1	1	1	2	7	15	0	0	
	2330	..	1010.5	1009.9	..	25.7	24.5	24.0	29.8	90	..	3.9	..	6.3	0	0	26	5	2	6	0	0	0	1	12	5	0	
Palghat	0830	97	1010.8	999.8	..	25.6	24.0	23.2	28.4	86	..	6.4	..	8.5	0	0	28	0	0	9	1	0	4	14	0	3	0	
	1730	..	1007.2	996.3	..	28.3	24.6	22.8	27.7	73	..	6.4	..	10.7	0	0	27	0	2	1	1	0	8	12	3	4	0	
Port Cochin	0830	3	1010.9	1010.6	-0.8	26.7	24.7	23.8	29.5	84	+2	6.9	+2.1	4.0	0	1	11	3	1	2	0	0	1	1	4	19	0	
	1730	..	1007.8	1007.5	..	27.3	25.1	24.0	30.1	82	..	7.0	..	9.6	0	0	31	1	1	0	0	0	0	10	18	1	0	
Cochin (Naval Air Station)	0230	3	1009.2	1008.9	..	24.7	24.0	23.5	28.9	94	..	5.6	..	3.0	0	0	14	2	5	5	1	0	0	0	1	17	0	
	0530	..	1009.2	1008.9	..	24.4	23.7	23.3	28.6	94	..	5.9	..	3.7	0	2	13	2	3	7	1	0	0	0	2	16	0	
Alleppey	0830	4	1010.6	1010.2	..	27.1	25.2	24.3	30.4	85	..	5.5	..	6.3	0	1	29	2	7	6	3	0	1	4	7	1	0	
	1730	..	1017.5	1007.1	..	28.0	25.5	24.5	30.7	81	..	6.1	..	13.0	0	4	27	4	0	0	0	0	1	11	15	0	0	
Punalur	0830	34	1010.5	1006.6	..	24.7	23.7	23.2	28.4	92	..	6.2	..	2.9	0	0	2	0	1	1	0	0	0	0	0	0	29	0
	1730	..	1007.2	1003.4	..	23.2	24.8	23.2	28.4	75	..	6.8	..	5.4	0	0	26	3	1	0	1	2	2	8	9	5	0	
Trivandrum	0230	64	1008.9	1001.5	..	24.2	23.5	23.1	28.3	93	..	4.5	..	5.3	0	0	31	14	4	0	1	0	0	0	12	0	0	
	0530	..	1009.0	1001.6	..	23.8	23.1	22.8	27.7	94	..	4.6	..	3.6	0	0	27	14	3	1	0	0	0	0	9	4	0	
Trivandrum (Aerodrome)	0830	..	1010.9	1003.6	-0.6	26.2	24.0	23.0	28.1	83	-2	5.1	-0.4	4.0	0	0	28	9	2	0	3	0	1	0	13	3	0	
	1130	..	1010.1	1002.9	..	28.8	24.9	23.1	28.3	72	..	5.8	..	7.2	0	0	30	2	1	0	1	0	5	12	9	1	0	
Arabian sea Island Mincoy*	0530	2																										
	0830	..																										
Amini Devi*	1130	..																										
	1730	..																										
Hill Stations (excluding Kashmir)— Walong (R)	0830	..																										
	1730	..																										
Kohima	0830	1406	1554.0	864.8	..	19.0	17.4	16.7	18.6	87	..	6.2	..	1.9	0	0	30	4	1	10	7	3	0	0	5	1	0	
	1730	..	1544.0	863.9	..	18.2	17.4	17.2	19.4	93	..	5.9	..	2.0	0	0	30	6	1	1	3	0	2	8	9	1	0	
Aijal	0830	..			..	20.3	19.4	18.5	22.0	89	..	6.5	..	3.4	0	0	31	0	0	19	2	3	4	3	0	0	0
	1730	..			..	21.1	19.8	19.3	22.1	91	..	6.2	..	1.8	0	0	31	2	0	4	2	0	4	17	2	0	0
Shilong	0830	1500	1512.5	851.5	-0.6	18.3	16.1	14.6	16.7	79	+7	5.3	+1.9	0.7	0	0	6	0	0	1	1	1	2	1	0	25	0	
	1730	..	1484.6	848.7	..	17.2	16.4	15.9	18.0	92	..	7.4	..	0.1	0	0	1	0	1	0	0	0	0	0	0	30	0	
Cherrapunji	0830	1313	1512.8	870.1	-0.6	18.3	17.4	15.0	19.3	84	+11	1.0	-2.8	3.7	0	0	31	0	15	7	2	0	7	0	0	0	0	
	1730	..	1490.5	867.7	..	18.9	18.1	17.2	20.1	87	..	1.9	..	4.4	0	0	31	0	20	6	0	0	5	0	0	0	0	
Darjiling (Raj Bhawan)	0830	2128	1537.1	793.4	+2.3	14.4	13.3	12.5	14.6	89	+16	6.5	+2.2	0.1	0	0	1	0	0	0	0	0	1	0	0	30	0	
	1730	..	1511.7	791.1	..	14.3	13.5	12.9	15.4	93	..	6.9	..	0.8	0	0	5	0	0	0	1	0	3	1	0	26	0	
Kalimpong	0830	1209	1489.3	878.1	-3.6	21.1	19.7	19.3	22.0	89	+10	2.5	-0.5	3.0	0	0	31	0	0	0	2	0	0	0	0	29	0	
	1730	..	1469.5	876.2	..	21.8	20.3	19.9	22.8	87	..	2.7	..	3.0	0	0	31	0	0	0	30	0	0	0	1	0	0	
Khatmandu (Hydromet)	0830	1324	1512.1	869.1	..	17.9	16.5	15.6	17.7	87	..	4.8	..	0.3	0	0	2	2	0	1	0	0	0	0	1	29	0	
	1130	..	1504.5	868.1	..	22.7	17.9	14.8	17.1	62	..	4.2	..	0.6	0	0	4	4	1	0	1	1	0	0	0	27	0	
Mukteswar (Kumaon)	1730	..	1488.0	865.5	..	19.6	17.2	15.6	17.9	78	..	4.1	..	0.7	0	0	5	2	0	0	1	0	0	0	2	26	0	
	0830	2311	3150.3	774.6	-0.2	12.9	10.5	8.1	10.5	76	+19	3.0	+1.6	6.7	0	1	26	1	2	4	2	1	3	9	5	4	0	
Nainital	1730	..	3133.8	772.7	..	14.2	12.7	11.6	13.7	85	..	3.8	..	10.1	0	1	27	0	0	1	1	0	4	18	4	3	0	
	0830	1953	1502.1	806.4	..	15.5	12.3	9.8	12.5	70	..	2.4	..	3.0	0	0	15	0	4	5	4	0	0	1	1	16	0	
Joshimath	1730	..	1477.5	804.2	..	15.2	13.4	11.7	14.2	80	..	3.0	..	4.8	0	0	24	4	0	3	4	3	2	8	0	7	0	
	0830	..			..	15.7	12.8	10.4	12.7	73	..	3.3	..	5.4	0	0	30	3	7	16	0	0	1	3	0	1	0
Badrinath †	1730	..			..	17.0	13.2	10.4	12.2	66	..	4.6	..	4.3	0	0	29	1	1	3	4	6	11	3	0	2	0
	0830	..			..	7.5	5.2	3.1	7.6	74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lokpal	0830	..			..	-1.2	-0.1	-2.2	5.2	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	..			..						..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mussoori	0830	2042	1500.1	797.9	-1.7	14.5	12.7	11.3	13.2	83	+19	3.6	+2.0	2.9	0	1	18	3	2	0	3	7	4	0	0	12	0	
	1730	..	1484.5	796.4	..	14.4	14.0	13.8	16.0	96	..	5.3	..	2.3	0	0	23	0	1	0	6	11	5	0	0	8	0	

† Observations for 23 days.

(R) Register not received.

*Data given as addenda in December, 1959 issue.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9—KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p. h.)			No. of observations									
			At mean sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hill Stations (excluding Kashmir) — (Contd.)																											
Simla	0830	2202	1505.9	783.6	-0.2	14.6	10.3	6.4	9.4	61	+17	2.0	+0.9	2.9	0	0	29	3	4	3	5	9	3	1	1	2	0
	1730	"	1492.1	782.2	..	14.2	12.2	10.4	12.9	79	..	3.5	..	3.0	0	0	31	11	7	0	4	4	1	0	4	0	0
Dalhousie	0830	1959	1447.3	800.4	..	15.4	12.7	10.1	13.0	74	..	1.3	..	0	0	0	0	0	0	0	0	0	0	0	0	26	0
	1730	"	1440.0	801.1	..	16.8	14.4	13.1	15.2	81	..	1.6	..	0	0	0	0	0	0	0	0	0	0	0	0	26	0
Dharamahala	0830	1211	1552.7	884.2	..	20.7	14.2	10.3	11.5	51	..	2.0	..	2.0	0	0	19	1	1	10	3	1	2	0	1	10	0
	1730	"	1536.0	882.5	..	21.3	18.2	16.0	18.5	75	..	5.7	..	2.8	0	0	28	0	2	0	2	3	16	5	0	2	0
Abu	0830	1195	1510.8	881.9	-1.3	20.8	17.4	14.7	17.5	72	+24	1.5	+0.4	0.4	0	0	3	2	1	0	0	0	0	0	0	28	0
	1730	"	1503.8	880.7	..	23.2	19.1	15.9	19.2	66	..	3.0	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Pachmarhi	0830	1075	1511.8	894.2	-1.3	21.4	19.0	17.5	20.1	79	+19	3.3	+1.1	2.5	0	0	16	0	6	4	0	0	1	2	3	15	0
	1730	"	1453.4	890.8	..	23.7	20.6	19.0	21.9	76	..	3.8	..	1.4	0	0	13	1	7	1	0	0	0	1	3	18	0
Mahabaleshwar	0830	1382	1510.7	863.1	-0.5	18.5	15.9	13.9	15.8	77	0	4.4	+0.6	11.5	0	1	30	3	5	9	0	2	6	2	4	0	0
	1730	"	1491.1	861.1	..	19.4	17.1	15.6	17.8	81	..	5.2	..	8.8	0	0	31	4	3	1	0	1	8	4	10	0	0
Nandi Hills	0830	..	..	..	..	15.2	15.2	15.2	17.3	100	..	8.0	..	27.9	0	21	10	11	15	3	0	0	0	0	2	0	0
Mercara	0830	1152	1504.4	885.7	-0.2	19.1	17.8	16.9	19.0	87	0	5.0	-0.4	8.7	0	2	28	0	7	7	0	0	0	8	8	1	0
	1730	"	1485.1	883.5	..	21.2	19.5	18.6	21.4	85	..	5.8	..	6.6	0	0	29	2	2	3	0	0	0	11	11	2	0
Kodaikanal	0530	2343	3128.4	769.7	..	12.0	11.6	11.2	13.3	95	..	7.0	..	7.6	0	0	23	5	6	0	3	0	1	1	7	8	0
	0830	"	3151.3	771.4	+0.2	13.9	12.8	12.0	14.0	90	+10	5.4	+0.6	4.5	0	1	19	1	8	1	3	0	0	0	7	11	0
	1130	"	3156.3	771.3	..	16.1	14.2	13.0	15.0	83	..	6.5	..	5.6	0	0	26	2	7	1	7	1	0	1	7	5	0
	1730	"	3141.8	769.5	..	13.9	13.3	14.9	14.9	94	..	6.9	..	3.7	0	0	20	6	6	0	3	1	0	0	4	11	0
	2330	"	3144.9	771.1	..	12.5	12.2	12.0	14.0	97	..	6.9	..	5.2	0	1	17	4	7	1	0	0	0	0	6	13	0
Ootacamund	0830	2249	1506.4	779.5	-0.2	13.9	12.6	12.0	14.0	88	+9	4.9	+0.1	2.4	0	0	10	0	0	1	0	2	1	5	1	21	0
	1730	"	1489.0	777.7	..	15.2	13.9	13.1	15.1	88	..	6.7	..	1.6	0	0	5	0	0	0	0	1	0	1	3	26	0
Coonoor	0830	1747	1511.3	827.7	..	18.1	15.7	14.3	16.3	79	+4	6.1	+0.5	3.2	0	0	24	1	0	2	1	6	3	0	2	7	0
Sikkim	0830	..	..	..	..	15.2	10.2	5.6	9.2	53	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lachen	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tibet	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yatung (Chumbi)(R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ceylon	0830	7	1010.9	1010.2	-0.7	23.6	23.3	23.1	28.3	81	-6	6.1	+0.4	8.1	0	0	29	1	2	8	6	2	4	6	0	2	0
Colombo	1730	"	1008.2	1007.6	..	27.1	24.5	23.1	28.3	78	..	6.9	..	13.5	0	1	29	1	0	1	0	2	15	9	2	1	0
Trincomalee	0830	3	1009.6	1009.3	-0.4	27.6	24.4	22.7	27.6	76	-6	4.1	+0.2	14.0	0	6	25	2	1	1	2	3	20	2	0	0	0
	1730	"	1006.4	1006.1	..	29.0	25.0	22.9	27.9	71	..	5.9	..	14.6	0	5	26	6	6	4	6	0	7	2	0	0	0
Batticaloa	0830	3	1010.2	1009.9	..	27.4	24.8	23.4	28.8	79	..	3.8	..	8.1	0	0	26	1	2	1	2	7	4	5	4	5	0
	1730	"	1007.0	1006.7	..	28.4	26.0	24.7	31.1	81	..	5.5	..	18.7	0	1	17	1	4	5	14	6	0	1	0	0	0
Hambantota	0830	15	1010.7	1009.0	0	27.0	24.8	23.7	29.3	82	-2	3.9	+0.1	16.1	0	10	21	3	3	2	0	0	18	5	0	0	0
	1730	"	1007.4	1005.7	..	27.6	24.6	23.1	28.3	78	..	5.3	..	22.7	0	19	11	0	0	0	1	1	24	3	1	1	0
Mannar	0830	4	1010.2	1009.8	..	27.8	25.8	24.8	31.3	84	..	5.5	..	9.9	0	2	26	1	2	1	4	7	13	0	0	3	0
	1730	"	1007.1	1006.7	..	28.6	25.6	24.5	30.7	81	..	6.5	..	12.1	0	6	24	4	2	0	1	5	16	2	0	1	0
Hydrometeorological Observatories																											
Damodar Catchment																											
Bokaro	0830	242	1010.3	983.0	..	25.5	23.2	22.0	28.8	82	..	4.0	..	5.8	0	1	24	1	1	5	3	0	3	7	0	6	5
	1730	"	1006.7	979.6	..	26.2	23.8	22.6	27.1	81	..	4.2	..	5.7	0	1	25	3	4	3	3	1	3	6	1	5	2
Hasaribagh	0830	615	1009.5	941.5	..	23.7	21.4	20.3	23.6	81	..	3.7	..	6.9	0	1	26	0	1	5	7	1	3	5	5	4	0
	1730	"	1006.4	938.6	..	23.9	21.6	20.4	24.1	81	..	4.0	..	6.0	1	0	18	0	0	5	5	0	2	2	5	12	0
Tilaiya	0830	..	..	..	..	25.3	21.7	19.5	22.9	71	..	7.6	..	9.0	0	1	30	1	0	14	5	2	1	8	0	0	0
	1730	"	..	..	..	25.3	21.4	19.0	22.3	69	..	7.8	..	8.3	0	1	30	5	0	17	2	1	0	4	2	0	0
Ramgarh	0830	..	..	..	..	25.2	22.9	21.9	26.2	82	..	3.2	..	2.9	0	1	19	2	3	7	1	2	0	5	0	11	0
	1730	"	..	..	..	26.0	23.6	22.6	27.0	81	..	2.7	..	1.9	0	1	11	1	1	8	0	0	0	2	0	19	0
Panchet Hills	0830	..	..	..	..	27.1	24.4	23.3	28.5	79	..	5.7	..	11.4	0	2	28	4	2	13	0	1	8	1	1	1	0
	1730	"	..	..	..	26.8	24.2	22.9	28.2	80	..	5.6	..	7.1	0	1	24	5	4	10	2	1	0	0	3	6	0
Durgapur	0830	..	..	..	..	27.4	24.8	23.7	29.3	81	..	..	..	12.7	0	3	28	2	1	4	10	4	4	4	2	0	0
	1730	"	..	..	..	26.8	24.7	23.8	29.3	83	..	..	..	9.0	0	4	26	3	3	6	7	8	1	0	2	1	0
Mahanadi Catchment																											
Hirakud	0830	159	1009.9	992.0	..	26.7	23.8	22.4	27.1	77	..																

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mb.	Relative humidity %	Departure from normal	Cloud amount (Oktae)		Wind speed (Km. p.h.)			No. of observations										
			At mean sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, kms. per hour	62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrometeorological Observatories—Contd.																											
Mahanadi Catchment.—Contd.																											
Sonepur	0830	..	..	..	..	27.5	24.2	22.8	27.4	75	..	..	..	6.0	0	0	28	2	5	10	0	1	4	6	0	3	0
Ginabaha	0830	..	..	..	..	24.7	21.8	20.0	23.8	76	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhinkund	0830	..	..	..	..	25.3	23.2	22.1	26.7	83	..	4.7	..	2.4	0	0	20	4	4	0	2	2	4	0	4	11	0
	1730	..	..	..	..	26.1	23.6	19.1	26.9	80	..	5.6	..	2.7	0	0	21	1	4	1	3	1	9	0	2	10	0
Narbada Catchment																											
Purasa	0830	..	..	..	..	25.1	22.5	21.1	25.7	80	..	..	..	3.2	0	0	25	4	7	3	2	1	2	3	3	6	0
	1730	..	..	..	..	29.9	23.8	20.8	24.7	59	..	..	..	1.7	0	0	11	2	2	0	0	1	2	3	1	20	0
Bagra Tawa	0830	..	..	..	..	25.3	22.6	20.9	25.1	76	..	1.8	..	3.6	0	0	17	0	5	2	0	3	7	0	0	14	0
	1730	..	..	..	..	28.0	23.3	20.8	24.8	67	..	2.8	..	1.6	0	0	9	0	1	2	0	3	3	0	0	22	0
Thikri	0830	..	..	..	..	25.2	22.9	21.7	26.1	81	..	3.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sabarmati Catchment																											
Jhadol	0830	..	..	..	..	23.4	20.7	19.4	22.6	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharsi	(R) 0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(R) 1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																											
Mukhum	0830	..	..	..	..	14.8	12.9	11.5	13.6	81	..	3.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.9	14.2	12.5	14.4	74	..	3.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fehri	0830	..	..	..	..	20.2	18.1	17.0	19.2	82	..	4.0	..	0.6	0	0	5	1	0	1	1	0	2	0	0	26	0
	1130	..	..	..	..	26.1	20.2	16.8	19.4	57	..	3.2	..	1.9	0	0	19	0	3	1	8	3	1	1	2	12	0
	1730	..	..	..	..	26.3	19.9	16.0	18.6	54	..	2.8	..	3.1	0	0	23	0	0	2	13	5	2	1	0	8	0
	
Gandak Catchment																											
Gorkha	0830	..	..	..	..	20.4	(b) 19.3	(b) 18.8	(b) 21.6	(b) 90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.5	(b) 19.8	(b) 19.4	(b) 22.8	(b) 95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	0830	..	..	..	..	21.4	19.0	17.7	20.2	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.5	19.6	18.7	21.5	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	0830	..	..	..	..	21.0	19.8	19.2	23.3	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.6	18.9	17.4	20.0	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	0830	..	..	..	..	12.4	9.0	6.1	9.6	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.1	9.6	7.1	10.0	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	14.4	12.6	11.3	13.4	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.1	14.8	13.6	15.4	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment. (Trans Himalayan Region)																											
Dailekh	0830	..	..	..	..	18.5	16.7	15.5	17.7	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.5	(d) 17.4	(d) 16.2	(d) 18.4	(d) 81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dandeldhora	0830	..	..	..	..	15.5	13.4	12.9	14.9	85	..	3.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.8	14.5	13.7	15.7	87	..	4.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buzwal	0830	..	..	..	..	25.2	22.6	21.2	25.3	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	25.4	(a) 23.4	(a) 22.5	(a) 27.2	(a) 83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																											
Katmandu†	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																											
Chautara	0830	..	..	..	..	17.4	16.3	15.8	17.9	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.1	16.5	15.0	17.1	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga*	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Data not available.

(d) Mean of 27 days.

(a) Mean of 30 days.

(b) Mean of 29 days.

†Data included under Hill Stations.

(R) Register not received.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—OCTOBER, 1959 (ASVINA 9-KARTIKA 9, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrometeorological Observatories—(contd.)																											
Koal catchment—(Contd.)																											
Barahshetra . . .	0830	146	1011.0	995.1	..	22.9	22.6	20.9	24.7	88	..	5.1	..	5.8	0	0	28	0	3	2	2	2	7	7	5	3	0
	1130	"	1010.8	994.2	..	26.3	32.2	21.7	26.0	76	..	5.5	..	8.7	0	0	30	0	1	0	0	0	13	15	1	1	0
	1730	"	1008.3	991.6	..	24.3	23.0	22.4	27.0	89	..	5.0	..	4.1	0	0	23	1	3	12	4	0	2	1	0	8	0
Angbung . . .	0830	..	..	..	..	19.3	17.8	17.0	19.4	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	21.9	18.1	15.7	17.8	68	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	0830	..	..	..	..	16.6	15.1	14.1	16.1	86	..	5.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	19.1	16.6	15.2	17.3	78	..	5.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.0	14.9	13.5	15.5	80	..	6.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur . . .	*0830	..	..	..	..	17.3	15.9	15.1	17.2	87	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.6	16.0	15.4	17.8	95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	0830	..	..	..	..	10.6	7.9	5.9	9.2	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	7.9	7.0	6.1	9.5	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok . . .	0830	..	..	..	..	19.3	16.7	15.1	17.1	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.5	17.1	15.6	17.7	78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	0830	..	..	..	..	19.1	17.6	16.7	19.0	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.1	18.1	16.7	19.4	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																											
Gangtok† . . .	0830	1812	1513.4	820.9	..	15.2	14.1	13.3	15.3	89	..	5.4	..	2.8	0	0	15	6	5	0	0	3	0	0	1	10	0
	1130	"	1502.0	820.1	..	17.3	15.8	14.9	17.0	86	..	6.5	..	2.5	0	0	16	1	1	0	1	6	7	0	0	9	0
	1730	"	1488.9	818.5	..	15.6	14.7	14.1	16.2	91	..	6.6	..	1.9	0	0	13	1	2	0	1	6	3	0	0	12	0
Gyzing . . .	0830	..	..	..	..	17.7	16.6	16.1	18.2	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.0	15.9	15.3	17.4	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Observations for 30 days.

†Observations for 25 days.

**MONTHLY MEANS OF UPPER WINDS,
October 1959 (Asvina 9—Kartika 9, 1881 Saka)**

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations, were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of these stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the Table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a.m.s.l. are given under Table IV and data above 9.0 km. a.m.s.l. under Table V.

In Tables IV and V :

n— represents the number of observations,

V—represents the mean wind speed in metres per second* irrespective of direction,

v— represents the resultant mean velocity in metres per second*,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km. a.g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a.m.s.l. Of these the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1, and 16.2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
Agartala	23°53'	91°15'	17	28th November, 1951	0530	1730	2330
Ahmedabad	23°04'	72°38'	61	19th May, 1928	0530	1730	2330
Amausi	26°45'	80°53'	132	20th November, 1950	0530	1730	2330
Ambala	30°23'	76°46'	279	1st April, 1941	0530	1730	2330
Amritsar	31°38'	74°52'	243	21st June, 1957	0530*	1730*	
Anantapur	14°41'	77°37'	364	12th February, 1946	0530	1730	2330
Asansol	23°41'	86°59'	135	29th May, 1942	0530	1730	2330
Baghdogra	26°38'	88°19'	140	7th June, 1953	0530	1730	2330
Bairagarh	23°17'	77°21'	532	26th February, 1943	0530	1730	2330
Bajpe	12°55'	74°53'	104	25th May, 1959	0530	1730	2330
Bamrauli	25°27'	81°44'	103	28th February, 1930	0530*	1130	1730* 23 30
Bangalore	12°58'	77°35'	936	19th May, 1915	0530	1730	2330
Barcilly	28°22'	79°24'	180	12th January, 1943	0530	1730	
Begumpet	17°27'	78°28'	543	1st September, 1929	0530	1730	2330
Bhagalpur	25°14'	86°57'	61	19th May, 1950	0530	1730	
Bhubaneshwar	20°15'	85°50'	54	5th December, 1942	0530	1730	2330
Bhuj	23°15'	69°48'	90	14th September, 1937	0530	1730	2330
Bikaner	28°00'	73°18'	229	18th October, 1946	0530	1730	2330
Chikalathana	19°51'	75°24'	583	7th October, 1951	0530	1730	2330
Cochin †	09°56'	76°14'	13	16th March, 1942	0530	1730	2330
Darjeeling	27°03'	88°16'	2115	21st May, 1956	0530	1730	
Dchra Dun	30°19'	78°03'	692	1st October, 1958	0530	1730	
Dum Dum	22°39'	88°27'	13	14th May, 1921	0530*	1130	1730* 23 30
Gadag	15°25'	75°38'	650	3rd May, 1943	0530	1730	2330
Gannavaram	16°32'	80°48'	34	8th April, 1942	0530	1730	2330
Gauhati	26°05'	91°43'	51	12th March, 1955	0530*	1130	1730* 23 30
Gaya	24°45'	84°57'	119	19th March, 1937	0530	1730	2330
Gopalpur	19°16'	84°53'	24	15th February, 1946	0530	1730	2330
Gorakhpur	26°45'	83°22'	83	5th January, 1943	0530	1730	
Gwalior	26°14'	78°15'	208	7th May, 1938	0530	1730	2330
Imphal	24°51'	93°58'	805	8th March, 1952	0530	1730	2330
Jabalpur	23°10'	79°57'	402	30th July, 1928	0530	1730	2330
Jagdarpur	19°05'	82°02'	562	25th March, 1948	0530	1730	2330
Jaipur	26°49'	75°48'	404	6th June, 1953	0530	1730	2330
Jamshedpur	22°49'	86°11'	147	23rd July, 1942	0530	1730	
Jharsuguda	21°55'	84°05'	240	1st May, 1944	0530	1730	2330
Jodhpur	26°18'	73°01'	229	15th October, 1934	0530*	1130	1730* 23 30
Madras	13°00'	80°11'	29	8th April, 1926	0530*	1130	1730* 23 30
Minicoy	08°18'	73°00'	16	14th April, 1941	0530	1730	2330
Mohanbari	27°29'	95°01'	112	1st June, 1948	0530	1730	2330
Nagpur	21°06'	79°03'	316	23rd April, 1943	0530*	1130	1730* 23 30
Nanpara	27°50'	81°30'	142	23rd April, 1957	0530	1730	
New Delhi	28°35'	77°12'	227	20th October, 1936	0530*	1130	1730* 23 30
Poona	18°32'	73°51'	593	5th January, 1925	0530	1730	2330
Port Blair	11°40'	92°43'	93	29th October, 1945	0530*	1130	1730* 23 30
Raipur	21°14'	81°39'	308	15th July, 1944	0530	1730	2330
Raxaul	26°59'	84°51'	83	28th October, 1957	0530	1730	
Santa Cruz	19°07'	72°51'	27	14th May, 1933	0530*	1130	1730* 23 30
Tezpur	26°37'	92°47'	79	12th August, 1932	0530	1730	2330
Tiruchirappalli	10°46'	78°43'	96	22nd June, 1936	0530	1730	2330
Trivandrum	08°29'	76°57'	73	8th December, 1928	0530*	1130	1730* 23 30
Udaipur	24°35'	73°42'	587	24th June, 1947	0530	1730	2330
Vengurla	15°52'	73°38'	8	22nd November, 1941	0530	1730	2330
Veraval	20°54'	70°22'	17	13th October, 1941	0530*	1130	1730* 23 30
Visakhapatnam	17°43'	83°14'	10	24th September, 1928	0530	1730	2330

*Radiowind ascents.
†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.7	1.2	092	31	1.4	0.9	101	31	0.8	0.8	118	31	1.9	0.3	035	31	2.3	0.6	102	31	1.3	0.7	129				
0.15 a. g. . .	23	4.0	2.8	112	26	2.6	0.4	075	29	4.0	2.4	138	30	5.9	2.7	060	28	3.4	0.7	046	31	4.2	1.6	083				
0.3 a.m.s.l. . .	23	3.9	1.8	142	26	2.6	0.5	219	29	4.1	2.5	161	30	6.1	2.4	059	28	3.6	1.1	053	31	4.5	2.0	092				
0.6 „ . . .	23	4.0	1.7	157	26	2.7	1.4	220	29	4.2	2.7	181	30	6.4	2.9	074	28	4.2	1.2	069	31	5.1	2.6	099				
0.9 „ . . .	23	4.1	2.5	169	26	3.0	1.7	220	29	3.8	2.7	190	28	5.5	3.0	077	27	4.8	1.3	060	31	5.9	2.8	100				
5 „ . . .	22	3.9	2.6	185	25	3.3	2.0	225	29	4.2	2.9	194	25	4.4	2.9	086	27	4.8	2.4	060	30	6.1	3.7	100				
2.1 „ . . .	22	4.6	2.7	192	22	3.7	2.1	226	26	4.4	2.9	208	24	5.0	3.3	084	26	5.0	3.1	060	29	5.9	4.3	093				
3.0 „ . . .	19	4.3	3.3	210	19	3.7	2.2	234	22	4.7	3.1	232	21	5.6	3.7	063	25	5.0	2.3	080	25	6.2	4.1	078				
3.6 „ . . .	16	4.6	3.1	240	16	5.2	3.1	251	16	4.9	3.7	247	3	5.1	5.0	106	25	4.4	1.7	060	1	5.1	5.1	085				
4.5 „ . . .	15	5.9	4.2	243	11	6.2	4.8	258	7	5.5	2.5	259	1	4.1	4.1	010	23	4.5	1.6	012								
5.4 „ . . .	12	7.6	5.6	257	4	6.7	6.3	259	3	2.7	1.9	326					21	6.6	2.6	015								
6.0 „ . . .	11	8.2	6.4	257	2	4.6	4.6	259	3	3.2	2.1	349					21	6.9	2.8	333								
7.2 „ . . .	9	8.5	7.3	263													8	13.7	7.9	303								
9.0 „ . . .	5	10.0	8.7	274													1	4.1	4.1	185								

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.4	0.8	053	31	1.8	1.1	030	31	2.0	0.9	067	31	2.0	1.1	104	31	1.5	0.5	349	31	2.1	0.5	021				
0.15 a.g. . .	28	4.6	1.1	115	30	4.6	2.1	044	29	5.9	2.1	105	31	6.2	2.3	108	31	4.8	2.4	328	31	6.8	1.9	022				
0.3 a.m.s.l. . .	28	4.6	1.1	116	30	4.7	2.1	044	29	5.8	2.1	107	31	2.8	1.5	104	31	2.4	0.7	341	31	2.9	0.8	018				
0.6 „ . . .	27	4.5	0.2	220	30	5.1	1.9	035	29	5.1	0.8	103	31	6.3	1.2	101	31	5.4	2.6	331	31	6.7	1.5	005				
0.9 „ . . .	25	4.4	1.3	322	28	5.4	1.8	005	27	4.4	1.2	305	31	6.1	0.6	332	31	5.3	2.9	322	31	6.2	2.0	333				
1.5 „ . . .	25	5.6	3.2	316	26	4.5	2.5	311	26	5.3	3.1	312	30	5.8	3.7	308	31	5.9	4.7	319	31	6.0	4.2	315				
2.1 „ . . .	22	5.9	2.8	328	24	5.3	4.0	302	24	5.0	3.0	303	30	6.2	4.7	312	31	6.7	6.3	320	31	6.3	4.9	316				
3.0 „ . . .	17	4.0	1.4	318	23	7.2	5.3	312	12	5.3	2.0	335	26	6.1	5.1	316	31	6.8	6.0	318	28	5.4	4.7	311				
3.6 „ . . .	8	4.3	1.1	129	19	7.3	6.4	308	7	6.1	2.3	338	10	5.4	4.6	322	31	6.3	4.8	323	13	6.8	4.4	307				
4.5 „ . . .	1	9.8	9.8	020	15	9.8	8.1	319					3	4.5	4.0	308	30	7.4	6.0	317	5	5.9	3.2	305				
5.4 „ . . .	1	7.2	7.2	055	13	10.0	8.0	321									26	8.8	6.7	314	4	5.3	4.1	234				
6.0 „ . . .	1	12.4	12.4	060	13	11.0	8.1	309									25	9.6	8.3	309	4	7.9	6.5	243				
7.2 „ . . .					9	10.6	5.9	336									19	12.7	11.5	301								
9.0 „ . . .					6	7.9	6.1	352									12	13.9	11.9	304								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	AMRITSAR								ANANTAPUR												ASANSOL							
	0530*				1730*				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.2	0.6	105	31	1.5	0.7	306	31	1.7	1.0	257	31	3.2	1.1	353	31	3.3	0.4	125	31	0.7	0.4	086				
0.15 a.g.	29	1.0	0.5	127	31	1.5	0.7	300	31	4.8	1.9	261	31	5.6	1.6	359	30	7.6	0.3	220	28	3.6	0.4	226				
0.3 a.m.s.l	29	1.0	0.5	132	31	1.5	0.7	306													28	3.5	0.7	169				
0.6 "	29	3.4	0.4	046	31	3.7	1.4	308	31	5.6	2.0	268	31	5.8	1.5	011	30	8.2	0.3	344	28	4.6	1.1	177				
0.9 "	29	4.0	1.6	318	31	3.5	2.1	291	31	7.7	2.1	322	31	5.8	1.7	006	30	7.9	1.1	037	26	4.6	0.0	014				
1.5 "	29	5.0	3.4	307	31	4.3	2.9	292	31	7.3	2.8	357	31	6.4	2.4	349	30	6.0	2.6	023	25	4.7	0.7	003				
2.1 "	29	5.5	4.0	313	31	4.8	3.7	303	29	5.5	1.7	022	30	7.1	2.8	341	30	5.8	2.9	006	22	4.6	0.6	255				
3.0 "	29	6.3	4.5	317	31	5.6	4.4	308	28	5.6	1.2	018	29	7.3	2.5	327	26	5.2	1.9	345	16	4.0	2.1	256				
3.6 "	29	6.7	5.1	322	30	6.2	5.0	308	25	5.6	2.0	047	25	6.7	2.4	296	19	5.3	1.3	321	13	4.6	3.0	258				
4.5 "	28	7.5	6.1	315	30	7.4	5.9	308	22	5.8	1.5	012	16	6.4	1.2	316	15	4.8	1.2	088	9	4.7	3.1	276				
5.4 "	28	8.5	6.4	305	29	9.8	9.1	294	21	5.3	2.7	359	15	5.6	0.2	237	10	5.8	0.8	225	8	6.3	4.6	278				
6.0 "	28	9.6	7.8	300	29	10.9	10.9	290	18	4.0	1.7	020	14	5.9	0.5	112	1	5.1	5.1	025	5	6.3	3.8	280				
7.2 "	28	13.2	11.7	288	29	15.2	13.5	292	10	3.9	2.2	340	12	4.7	0.6	100					5	7.6	4.6	266				
9.0 "	20	16.2	14.0	281	23	18.5	17.3	292	7	2.4	1.0	200	9	3.9	0.9	092					3	8.6	4.5	282				

Station	ASANSOL								BAGHDODGRA												BAIRAGARH							
	1730				2330				0530				1730				2330				0530							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.8	0.6	095	31	1.0	0.7	124	31	1.5	1.1	060	31	2.1	1.2	067	31	2.1	1.5	036	31	1.5	0.8	353				
0.15 a.g.	29	3.5	2.3	097	31	4.6	2.3	137	27	4.2	3.5	080	26	3.1	1.1	112	21	4.0	2.5	064	31	4.0	1.3	051				
0.3 a.m.s.l	29	3.7	2.2	103	31	4.6	2.3	140	27	4.2	3.6	090	26	3.2	1.3	125	21	4.0	2.4	284								
0.6 "	29	4.5	2.0	123	30	4.8	2.1	154	26	4.3	3.0	080	26	4.3	1.6	140	21	4.2	1.9	093	31	3.8	1.3	047				
0.9 "	28	4.9	1.4	125	30	4.5	1.5	172	26	4.0	1.9	080	24	4.6	1.6	125	21	4.3	1.5	085	30	4.5	1.7	063				
1.5 "	26	4.2	0.8	281	28	4.7	1.1	231	17	3.8	1.2	067	13	3.7	0.7	160	16	4.7	2.3	105	29	4.2	2.4	033				
2.1 "	24	5.2	2.6	288	25	5.1	1.7	285	16	3.2	0.7	325	10	4.3	0.5	275	12	3.3	2.4	097	29	4.1	3.1	024				
3.0 "	21	4.7	3.2	260	21	4.1	1.5	269	14	2.9	0.6	260	5	3.9	2.9	326	7	2.2	0.6	028	26	4.2	3.0	014				
3.6 "	15	4.6	3.3	262	18	4.2	2.7	257	13	4.3	1.3	265	4	3.4	2.6	357	3	3.1	2.8	011	14	4.3	2.9	024				
4.5 "	9	5.9	3.8	274	14	5.8	3.5	270	11	4.9	2.3	253									5	5.3	3.4	321				
5.4 "	7	6.2	4.0	271	11	5.2	2.9	291	7	6.4	5.0	290																
6.0 "	6	7.9	6.2	269	6	5.3	4.8	264	6	9.0	6.8	290																
7.2 "	3	7.7	6.8	306					1	24.7	24.7	305																
9.0 "									1	28.3	28.3	280																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

WINDS UP TO 9.0 KM. ABOVE MEAN SEA LEVEL
 October 1959 (ASVINA 9—KARTIKA 9, 1959 SAKA)

Station	BAIRAGARH								BAJPE								BAMRAULI											
	1730				2330				0530				1730				2330				0530*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.1	1.3	011	31	1.7	0.7	051	31	1.6	1.1	098	31	3.6	3.1	293	31	1.6	0.8	357	31	1.1	0.5	053				
0.15 a.g.	30	4.0	2.7	007	31	4.7	2.7	053	31	3.4	1.6	037	30	4.7	4.1	289	31	3.8	2.5	331	30	5.1	0.3	030				
0.3 a.m.s.l.									31	3.3	1.5	012	30	5.0	4.4	290	31	4.1	3.0	327	30	5.0	0.2	034				
0.6 "	30	3.7	2.4	004	31	4.5	2.2	049	31	4.2	2.0	346	30	4.7	3.8	305	31	4.6	3.3	326	30	5.0	0.7	035				
0.9 "	30	4.3	2.9	014	31	4.8	3.2	059	30	5.2	2.2	340	30	4.2	3.1	315	31	4.5	2.9	322	30	5.1	1.2	019				
1.5 "	30	4.3	2.7	021	31	4.0	2.7	045	28	5.6	1.4	338	27	4.4	1.6	351	28	5.0	1.6	355	30	5.3	2.3	005				
2.1 "	30	4.5	2.6	026	31	3.6	2.1	026	24	6.2	0.5	022	23	5.5	0.9	028	25	6.2	1.7	041	30	6.3	3.0	357				
3.0 "	26	4.5	2.6	007	28	4.3	1.7	003	22	5.3	0.3	343	19	5.6	0.3	333	18	4.8	0.7	324	30	6.6	3.0	339				
3.6 "	23	4.7	3.0	351	12	4.2	2.1	346	12	4.3	1.3	300	17	5.8	1.1	015	14	5.1	1.5	324	30	6.5	3.0	321				
4.5 "	15	6.0	4.4	339	1	3.6	3.6	015	7	3.1	0.4	338	16	5.6	0.9	062	6	2.2	0.5	165	30	6.9	3.4	308				
5.4 "	14	8.6	5.3	333					4	2.7	1.2	054	14	5.3	0.9	310	3	0.9	0.5	191	30	8.3	4.9	306				
6.0 "	12	9.3	5.6	333					2	3.3	0.3	300	11	5.3	2.3	046	2	1.5	0.6	164	30	9.1	5.6	310				
7.2 "	7	10.5	6.2	321									7	4.2	3.1	075	1	0.5	0.5	335	30	11.4	6.6	290				
9.0 "	5	8.2	5.9	288									6	5.0	3.8	095					27	11.9	8.1	270				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.7	0.4	049	31	1.7	0.7	039	31	1.3	0.4	080	31	3.3	0.5	313	31	3.5	0.4	327	31	3.3	0.4	125				
0.15 a.g.	27	2.9	0.1	169	31	5.0	1.4	018	26	6.5	2.0	159	16	6.2	1.3	313	29	5.0	0.9	358	22	6.2	2.5	082				
0.3 a.m.s.l.	27	3.1	0.2	175	31	5.0	1.4	018	26	6.9	1.7	202																
0.6 "	26	3.7	0.4	246	31	4.8	1.6	022	26	6.5	1.1	146																
0.9 "	25	4.2	0.6	248	31	4.8	1.4	020	26	5.7	0.5	151																
1.5 "	22	4.9	1.7	316	31	4.7	1.5	354	25	5.2	1.8	286	16	6.1	1.7	355	29	5.4	2.0	343	21	6.6	2.3	044				
2.1 "	20	6.2	3.2	321	31	5.1	2.4	338	25	5.5	3.2	296	16	5.0	2.4	024	28	5.9	2.7	332	19	4.5	2.6	031				
3.0 "	17	6.9	5.3	318	31	6.5	3.7	315	21	5.5	4.0	316	12	4.0	1.0	294	25	5.5	1.9	304	15	4.5	1.4	317				
3.6 "	12	8.2	7.1	319	31	6.5	3.8	312	5	5.1	3.8	294	7	4.1	1.8	285	20	4.9	1.3	280	14	4.6	1.3	355				
4.5 "	9	9.1	7.6	304	31	8.0	5.0	305	2	9.8	6.1	325	5	3.3	1.3	268	16	4.8	0.7	249	11	4.6	0.5	095				
5.4 "	9	10.9	9.6	309	31	9.4	6.4	291					3	4.0	2.3	231	15	4.8	1.3	111	11	4.6	1.6	150				
6.0 "	7	10.9	9.6	308	31	10.2	6.5	292					3	4.5	3.6	222	15	4.9	0.7	162	8	3.9	1.4	212				
7.2 "	5	13.2	12.5	317	31	12.2	8.2	290					2	2.6	2.4	288	10	5.3	2.0	113	5	3.4	2.8	124				
9.2 "	4	11.7	11.2	312	30	13.7	10.6	273					2	7.5	6.8	122	7	5.2	1.7	061								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	BAREILLY				BEGUMPET												BHAGALPUR															
	0530				1730				0530				1730				2330				0530											
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.3	1.0	093	31	1.3	0.8	339	31	1.7	0.7	319	31	3.2	0.7	337	31	1.7	0.2	345	31	2.4	1.9	096								
0.15 a.g. . .	30	5.3	1.7	134	30	3.6	1.7	342	29	5.7	1.3	328	31	5.6	1.6	004	30	5.6	1.4	079	25	3.1	1.3	118								
0.3 a.m.s.l. .	30	5.2	1.6	112	30	3.4	1.6	349													25	3.2	0.9	107								
0.6 ,, . . .	30	5.5	0.5	134	30	4.0	1.7	336	29	4.0	1.0	335	31	4.7	1.9	016	30	3.8	0.9	070	25	3.4	0.6	068								
0.9 ,, . . .	30	5.3	0.6	295	30	4.2	1.9	320	28	6.7	1.7	005	31	5.8	1.7	001	30	6.4	1.9	054	25	3.3	0.4	008								
1.5 ,, . . .	29	6.0	3.5	312	29	5.8	3.1	310	26	6.1	2.5	038	31	5.6	1.8	353	29	6.1	2.5	031	22	3.4	1.1	317								
2.1 ,, . . .	26	6.3	4.9	315	27	6.4	4.0	320	25	5.8	2.1	014	31	6.1	2.2	349	27	6.1	2.6	353	21	4.3	3.4	292								
3.0 ,, . . .	22	4.8	3.7	328	25	5.7	4.4	313	23	4.5	1.5	014	28	5.4	1.7	317	23	4.9	2.3	313	21	4.6	1.8	265								
3.6 ,, . . .	17	5.0	3.1	339	23	6.4	5.0	314	17	3.7	0.9	035	22	5.2	1.9	284	10	4.2	1.5	332	18	5.2	3.4	281								
4.5 ,, . . .	8	6.2	3.7	324	23	9.2	7.3	312	8	4.6	1.6	289	18	5.7	1.8	253	3	4.1	3.6	235	17	6.1	4.4	283								
5.4 ,, . . .	4	9.4	6.8	290	22	9.9	8.6	316	6	4.6	2.9	274	12	6.1	2.4	227	1	10.3	10.3	260	12	8.1	6.3	276								
6.0 ,, . . .	4	9.1	6.6	280	21	10.6	9.3	306	5	4.9	3.2	274	11	5.3	1.4	252	1	6.7	6.7	300	11	10.6	7.5	284								
7.2 ,, . . .	2	14.4	12.2	310	15	10.6	8.6	294	2	5.9	5.7	260	4	3.8	1.0	020					7	6.5	3.3	255								
9.0 ,, . . .					12	14.9	12.4	293	1	22.1	22.1	250	4	4.5	4.0	291					1	8.7	8.7	305								

Station	BHAGALPUR				BHUBANESHWAR								BHUJ																			
	1730				0530				1730				2330				0530				1730											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.8	2.0	098	31	2.0	0.4	011	31	2.3	0.8	160	31	2.0	0.3	022	31	1.2	0.5	330	31	3.7	0.7	007								
0.15 a.g. . .	29	3.9	2.0	095	30	5.6	0.6	348	28	5.2	2.1	156	30	6.0	1.3	153	31	5.1	2.6	315	31	4.9	0.4	339								
0.3 a.m.s.l. .	29	4.4	2.2	094	30	5.6	0.1	089	28	4.2	2.0	166	30	6.4	2.2	169	31	5.4	2.5	324	31	5.2	0.5	340								
0.6 ,, . . .	27	3.9	0.5	111	30	5.9	0.1	242	28	5.7	1.9	153	30	6.2	1.9	166	31	5.8	1.8	331	31	5.3	0.6	007								
0.9 ,, . . .	27	4.2	0.5	155	28	5.7	0.3	066	25	5.6	0.8	154	30	6.2	1.3	159	29	5.6	0.8	013	31	5.3	0.7	036								
1.5 ,, . . .	25	4.5	1.2	277	27	5.9	0.3	336	22	5.0	0.7	019	29	5.8	0.4	132	29	5.8	4.0	090	30	4.7	1.7	061								
2.1 ,, . . .	25	4.9	1.9	265	22	5.7	0.1	341	16	5.7	1.7	329	26	5.7	0.5	322	27	6.5	4.6	081	27	5.2	2.8	050								
3.0 ,, . . .	21	4.7	2.2	277	19	4.6	1.8	245	13	5.5	3.5	293	19	5.3	1.5	229	26	6.9	4.9	074	24	6.2	3.5	053								
3.6 ,, . . .	18	4.7	2.3	294	15	4.9	2.3	278	8	8.5	3.8	283	5	3.8	2.5	287	7	5.0	3.9	059	19	6.4	3.7	040								
4.5 ,, . . .	10	6.0	3.8	315	9	6.2	4.7	272	6	7.4	4.5	302	1	6.7	6.7	030	1	8.7	8.7	045	14	5.7	3.7	034								
5.4 ,, . . .	4	6.8	4.4	313	6	8.7	6.2	280	3	11.3	7.5	305	1	11.8	11.8	345					14	7.8	4.0	027								
6.0 ,, . . .	3	5.7	2.3	328	6	7.6	6.9	271	3	10.8	8.5	307									14	8.3	5.0	028								
7.2 ,, . . .	1	9.8	9.8	090																	7	9.9	6.0	335								
9.0 ,, . . .	1	8.2	8.2	110																	2	8.7	8.3	342								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	BHUJ				BIKANER												CHIKALTHANA											
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.1	0.8	284	31	1.4	1.1	213	31	1.0	0.2	308	31	1.0	0.3	203	31	1.2	0.9	277	31	2.9	1.0	025				
0.15 a. g.	31	5.5	2.1	291	31	6.4	4.3	227	31	2.8	1.1	293	31	5.0	1.1	156	30	5.2	0.7	346	29	4.8	0.7	016				
0.3 a.m.s.l.	31	5.6	1.6	308	31	4.8	3.2	216	31	2.4	0.8	293	31	4.2	1.3	143	..	..	..	..	..	..	..	..
0.6 „	31	5.5	1.3	349	31	5.7	3.9	245	31	3.2	1.3	307	30	4.7	0.6	223	..	..	..	..	..	..	..	..
0.9 „	30	4.8	1.4	029	30	4.4	2.2	240	31	3.4	1.3	305	30	3.9	1.1	273	30	6.4	1.4	018	29	5.0	1.2	355				
1.5 „	29	6.0	2.9	060	30	3.4	1.4	294	31	3.4	1.3	301	31	3.4	2.1	291	30	6.6	2.4	036	26	5.4	1.7	012				
2.1 „	28	6.7	4.5	068	30	3.5	2.3	334	30	3.8	1.7	297	31	4.2	2.6	289	27	5.2	1.2	065	24	5.4	1.3	026				
3.0 „	27	6.4	4.7	050	30	4.8	3.5	358	30	4.1	2.4	318	29	5.0	2.8	311	22	4.2	1.4	032	18	4.7	0.8	307				
3.6 „	13	7.2	5.4	045	21	5.5	4.1	005	30	4.3	3.3	332	16	5.0	4.2	340	16	4.3	0.9	131	14	5.6	1.7	294				
4.5 „	6	7.7	5.3	067	9	6.5	3.4	006	29	6.2	4.9	333	7	6.5	5.7	338	..	..	..	..	11	6.0	1.9	321
5.4 „	..	..	..	..	2	4.6	4.2	020	28	8.2	6.5	323	3	7.7	7.4	335	..	..	..	..	9	7.2	3.1	330
6.0 „	..	..	..	..	..	..	..	..	27	9.0	7.4	317	..	..	..	..	..	..	..	..	6	9.8	5.3	009
7.2 „	..	..	..	..	..	..	..	..	18	10.0	7.4	330	..	..	..	..	..	..	..	..	1	12.4	12.4	293
9.0 „	..	..	..	..	..	..	..	..	12	7.6	6.0	324	..	..	..	..	..	..	..	..	..	..	..	..

Station	CHIKALTHANA				COCHIN												DARJEELING											
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.5	1.1	283	31	1.0	0.5	021	31	3.1	2.8	306	31	1.1	0.5	058	31	0.4	0.2	127	31	0.2	0.1	192				
0.15 a.g.	30	6.3	2.6	007	28	2.8	1.7	021	27	4.4	3.7	295	22	2.4	1.6	336	4	0.7	0.4	034	..	..	..	..
0.3 a.m.s.l.	..	..	..	..	28	3.1	2.2	350	27	5.1	4.4	294	22	3.2	2.7	328	..	..	..	..	..	..	..	..
0.6 „	..	..	..	..	28	4.0	2.9	331	27	5.1	4.5	300	22	4.3	3.8	319	..	..	..	..	..	..	..	..
0.9 „	30	7.3	3.0	015	28	4.5	3.1	330	27	4.7	3.5	309	21	4.6	3.7	313	..	..	..	..	..	..	..	..
1.5 „	30	6.4	2.0	039	28	5.0	1.9	340	25	4.3	2.4	349	21	4.9	2.6	318	..	..	..	..	..	..	..	..
2.1 „	27	5.4	1.6	066	26	5.7	2.0	355	21	4.1	1.9	038	19	5.4	1.3	353	..	..	..	..	..	..	..	..
3.0 „	24	4.7	0.6	096	23	4.9	2.0	047	18	4.9	1.6	052	16	4.8	1.1	024	4	2.7	2.0	069	..	..	..	..
3.6 „	18	4.5	1.4	031	17	4.4	2.3	053	13	4.0	0.9	019	11	4.8	2.8	019	4	3.3	2.8	065	..	..	..	..
4.5 „	9	4.3	2.1	262	7	4.7	2.7	046	9	3.5	1.0	024	3	4.3	2.2	050	4	2.2	1.5	048	..	..	..	..
5.4 „	3	6.2	1.9	241	6	4.9	3.5	070	3	2.4	0.9	341	..	..	..	..	2	4.6	4.4	285	..	..	..	..
6.0 „	1	1.0	1.0	100	5	5.3	3.1	076	2	5.7	5.3	068	..	..	..	..	2	10.3	9.6	294	..	..	..	..
7.2 „	..	..	..	..	2	3.6	1.7	080	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9.0 „	..	..	..	..	1	3.6	3.6	055	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	DEHRA DUN								DUM DUM																			
	0530				1730				0530*				1130				1730*				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	1.7	1.5	014	31	1.3	0.6	285	30	1.1	0.4	100	31	2.5	1.1	114	31	1.8	0.9	107	31	1.3	1.0	130	29	4.2	2.7	153
0.15 a.g.	25	1.2	0.8	084	31	2.7	1.1	291	30	3.3	0.8	140	28	3.2	1.0	232	31	4.2	2.6	135	29	4.2	2.7	153				
0.3 a.m.s.l.	..	..	..	..	..	..	..	..	30	3.9	1.1	143	28	3.7	1.3	150	31	4.2	2.4	142	29	4.9	3.2	160
0.6 ..	..	..	..	..	..	..	..	..	29	3.9	0.9	140	28	4.3	1.5	155	31	4.4	2.0	150	27	4.9	2.5	168
0.9 ..	25	1.2	0.6	132	31	2.7	1.5	290	29	4.4	0.9	150	26	5.1	2.2	164	30	3.8	1.2	164	25	5.1	2.2	176				
1.5 ..	25	1.6	0.5	157	30	2.6	1.7	292	29	4.5	0.9	150	21	4.5	1.2	138	30	3.9	1.1	201	24	4.6	1.0	176				
2.1 ..	21	2.9	0.7	336	27	3.1	2.6	301	29	4.3	1.3	178	13	5.1	1.1	207	30	3.8	1.5	211	22	4.4	0.7	169				
3.0 ..	17	4.3	2.7	314	21	4.1	2.8	303	29	4.3	2.0	213	8	5.7	1.8	207	30	4.3	2.4	220	17	4.3	0.7	204				
3.6 ..	17	6.7	4.2	319	19	4.4	2.9	325	28	5.1	2.3	204	4	4.6	4.2	252	30	4.5	3.0	229	10	5.7	4.0	254				
4.5 ..	8	6.1	2.8	313	13	8.3	6.5	323	28	5.3	3.5	238	3	8.7	8.6	257	30	5.5	3.4	240	5	5.5	2.1	271				
5.4 ..	3	6.3	2.3	310	10	7.7	6.1	300	27	6.1	4.8	256	2	9.0	8.4	280	30	6.7	4.8	261	2	6.9	5.9	309				
6.0 ..	1	9.3	9.3	310	8	11.8	8.9	305	26	6.7	6.0	252	2	10.8	10.8	284	30	7.0	5.5	258	1	8.2	8.2	270				
7.2 ..	..	..	..	..	5	12.5	9.7	294	26	7.7	6.6	250	1	16.0	16.0	275	30	8.4	7.5	257	..	..	..	..
9.0 ..	..	..	..	..	2	12.6	11.3	244	25	9.2	7.7	258	..	..	..	..	27	10.6	9.2	253	..	..	..	..

Station	GADAG												GANNAVARAM															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	3.3	1.0	246	31	4.0	0.3	321	31	4.2	1.4	261	31	1.6	0.7	349	31	2.5	1.0	082	31	1.6	0.5	077				
0.15 a.g.	31	8.0	0.9	278	31	7.1	1.2	299	31	8.4	2.8	266	31	4.8	0.4	026	26	3.4	1.7	107	26	4.6	2.4	103				
0.3 a.m.s.l.	..	..	..	..	..	..	..	..	..	..	..	..	31	5.3	0.4	072	26	3.8	2.8	093	26	4.8	2.4	097
0.6 ..	..	..	..	..	..	..	..	..	..	..	..	..	31	5.6	0.6	041	26	4.0	1.2	059	26	4.9	2.1	075
0.9 ..	31	8.6	1.4	323	31	7.1	1.4	286	31	9.0	2.5	279	31	5.1	1.1	033	26	4.6	1.4	007	26	5.1	2.0	038				
1.5 ..	27	8.7	2.7	047	30	6.4	1.3	307	31	7.6	1.3	029	31	5.0	2.0	356	26	6.2	2.5	346	26	6.0	2.5	008				
2.1 ..	27	6.7	2.2	048	27	6.0	2.3	016	29	6.1	2.7	060	27	5.0	2.6	014	26	5.9	1.9	358	24	5.5	2.2	006				
3.0 ..	23	6.2	1.4	039	15	5.7	1.2	001	25	5.7	1.3	059	23	4.3	1.8	013	25	5.7	1.5	355	22	4.6	0.7	029				
3.6 ..	18	6.4	0.6	210	7	7.9	1.5	337	20	5.9	0.8	292	13	4.2	1.7	340	24	5.6	1.0	292	19	4.4	0.7	018				
4.5 ..	3	4.6	2.7	275	6	6.8	1.1	228	9	5.2	2.8	270	8	4.3	0.5	251	21	5.5	0.7	278	11	4.5	0.3	131				
5.4 ..	..	..	..	..	5	5.3	1.1	069	1	1.5	1.5	275	4	5.8	2.8	275	16	5.3	0.8	279	7	3.9	0.9	273
6.0 ..	..	..	..	..	3	2.7	1.1	161	1	2.6	2.6	215	1	2.1	2.1	180	13	5.8	2.8	278	4	2.7	1.3	260
7.2 ..	..	..	..	..	3	4.9	2.3	018	1	2.1	2.1	315	1	1.5	1.5	205	10	5.6	3.1	281	2	3.9	3.8	232
9.0 ..	..	..	..	..	2	3.1	0.4	097	..	..	..	..	..	..	..	..	1	7.2	7.2	280	..	..	..	..

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	GAUHATI												GAYA															
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.1	0.8	058	30	1.9	1.4	038	31	0.8	0.5	075	31	0.8	0.1	132	31	1.8	1.3	109	31	2.8	1.7	075				
0.15 a.g. . .	31	3.1	1.8	081	25	2.8	2.3	035	31	2.7	1.3	073	27	2.2	0.6	149	28	3.9	1.6	153	28	4.5	1.7	037				
0.3 a.m.s.l. .	31	3.7	2.5	085	25	3.0	2.2	052	31	2.9	1.5	084	27	2.5	0.6	064	28	4.0	1.7	160	28	3.6	1.5	047				
0.6 ,, . . .	31	5.0	3.7	090	25	3.5	1.9	066	31	3.7	1.6	078	27	3.0	1.0	069	26	4.8	1.2	158	26	3.6	0.8	004				
0.9 ,, . . .	30	5.6	3.7	090	25	4.1	1.6	097	31	4.0	1.2	114	27	3.7	0.3	266	26	4.8	0.1	202	26	4.0	0.9	313				
1.5 ,, . . .	28	5.6	1.7	121	19	3.7	0.9	168	31	4.7	0.7	228	25	3.5	1.9	244	24	4.3	1.6	319	25	5.2	2.5	276				
2.1 ,, . . .	27	5.3	1.1	132	17	3.7	2.4	223	27	5.0	1.1	232	20	3.0	2.3	235	23	4.9	2.5	314	24	5.3	3.5	285				
3.0 ,, . . .	27	5.3	1.9	224	12	3.9	2.2	244	25	5.2	1.9	233	11	3.5	1.7	230	20	6.0	2.6	290	17	4.5	2.6	251				
3.6 ,, . . .	26	5.9	2.8	249	9	5.1	1.0	274	22	5.2	3.1	241	1	3.1	3.1	200	15	6.6	2.4	305	14	5.1	3.5	266				
4.5 ,, . . .	24	4.9	2.6	253	5	4.3	1.4	224	19	6.1	4.4	226					11	7.7	5.0	282	5	4.9	1.3	093				
5.4 ,, . . .	21	6.2	3.5	244	4	5.0	4.5	260	19	7.4	5.6	234					6	7.6	6.8	258	4	7.9	5.9	263				
6.0 ,, . . .	21	7.9	5.1	243	4	6.5	5.3	261	18	7.8	5.6	242					6	9.4	9.3	261	1	6.2	6.2	190				
7.2 ,, . . .	19	9.0	6.5	254	2	9.8	4.2	273	17	10.4	8.7	247					3	9.1	6.6	310								
9.0 ,, . . .	16	13.1	11.7	248	1	10.8	10.8	254	16	11.6	10.2	260					2	14.7	6.8	292								

Station	GAYA				GOPALPUR								GORAKHPUR															
	2330				0530				1730				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.4	1.8	109	31	2.1	0.8	355	31	3.8	1.8	155	31	2.3	0.4	183	31	1.6	1.0	039	31	1.6	0.5	106				
0.15 a.g. . .	30	4.7	2.4	123	25	3.7	1.7	316	27	5.0	2.5	154	30	4.1	1.3	174	27	5.2	2.4	094	28	3.9	0.7	099				
0.3 a.m.s.l. .	30	4.8	2.7	122	25	3.7	0.7	306	27	5.0	2.2	147	30	4.4	1.4	164	27	5.1	2.2	102	28	4.4	0.9	106				
0.6 ,, . . .	29	5.6	2.3	139	24	4.0	0.7	029	26	4.8	1.2	150	30	4.9	1.2	157	25	4.9	1.5	102	28	5.3	1.2	112				
0.9 ,, . . .	29	5.2	1.4	175	24	4.4	1.0	240	26	4.7	0.7	091	27	5.5	0.7	156	25	5.0	0.6	094	28	6.1	1.3	119				
1.5 ,, . . .	28	5.8	2.2	260	24	5.0	1.3	346	24	4.9	1.6	330	25	5.3	0.7	069	24	5.3	2.1	319	24	5.2	2.4	296				
2.1 ,, . . .	22	6.0	2.1	243	21	4.6	1.5	342	22	4.7	2.1	326	21	5.2	2.0	349	23	5.3	2.9	317	24	5.3	3.4	303				
3.0 ,, . . .	16	4.0	2.5	284	19	5.2	2.4	297	16	5.2	3.3	300	18	5.6	2.8	307	18	6.0	1.4	290	24	5.1	3.1	305				
3.6 ,, . . .	6	4.0	0.1	359	17	4.8	2.2	305	12	6.0	4.2	290	11	5.7	3.8	283	8	5.5	1.1	153	23	5.7	3.5	303				
4.5 ,, . . .					14	5.9	3.9	277	10	6.2	4.0	291	6	5.8	4.6	268	2	4.1	3.2	241	19	7.6	4.3	302				
5.4 ,, . . .					11	6.6	4.0	276	9	7.1	4.8	295	2	4.1	3.4	352	1	5.1	5.1	280	14	9.8	5.7	335				
6.0 ,, . . .					10	5.3	3.1	290	8	6.2	5.1	286	1	4.6	4.6	350	1	3.6	3.6	260	12	9.4	4.2	331				
7.2 ,, . . .					8	5.5	2.9	275	4	9.4	8.6	265									11	10.0	5.4	339				
9.0 ,, . . .					2	11.6	11.5	267	1	12.9	12.9	270									6	7.7	4.3	019				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	GWALIOR												IMPHAL															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.5	0.1	021	31	1.3	1.0	349	31	0.8	0.4	220	31	0.1	0.1	045	31	0.7	0.4	253	31	0.1	0.1	351				
0.15 a.g.	30	4.2	0.5	166	31	3.8	2.9	009	31	4.9	1.7	106	10	1.3	0.9	080	22	2.0	1.4	229	22	1.3	0.5	239				
0.3 a.m.s.l.	31	3.3	0.4	231	31	3.4	2.5	004	31	4.4	1.2	119																
0.6 "	29	4.3	0.7	109	31	4.3	3.4	007	31	4.9	2.1	080																
0.9 "	29	4.0	1.2	032	31	4.3	3.1	001	30	4.1	1.1	050	10	0.9	0.5	073	22	1.9	1.3	234	22	1.2	0.6	260				
1.5 "	29	4.6	3.5	348	31	4.5	2.8	355	29	4.0	1.5	327	9	2.2	0.3	129	22	2.0	0.9	214	20	2.2	1.1	223				
2.1 "	28	5.7	4.8	349	30	5.2	3.1	344	28	4.2	3.1	325	7	3.1	1.9	241	18	2.9	1.3	244	17	3.3	1.6	233				
3.0 "	28	6.2	4.5	343	27	5.9	4.4	328	28	5.4	4.2	339	4	5.0	4.1	210	11	3.6	1.4	242	10	4.7	3.7	243				
3.6 "	23	5.8	3.7	349	27	6.4	4.7	321	19	6.4	5.2	323	2	5.1	4.9	180	4	4.4	1.9	279	5	4.1	4.0	243				
4.5 "	13	4.6	1.8	282	25	7.0	5.8	320					1	4.6	4.6	230	4	9.9	8.6	283	1	8.7	8.7	240				
5.4 "	9	5.0	1.6	268	25	8.5	6.8	321													1	7.2	7.2	250				
6.0 "	7	5.1	0.2	284	25	9.7	7.9	316													1	10.3	10.3	250				
7.2 "	5	5.5	1.7	266	20	11.5	8.5	302																				
9.0 "	4	11.6	9.7	298	12	11.7	9.0	282																				

Station	JABALPUR												JAGDALPUR															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.8	0.3	157	31	1.6	0.9	036	31	1.2	0.6	070	31	0.5	0.1	021	31	1.4	0.5	031	31	0.3	0.3	263				
0.15 a.g.	31	3.8	0.5	165	30	5.0	2.8	019	31	4.6	2.2	067	29	4.5	1.5	058	30	4.8	2.3	028	29	4.5	1.6	052				
0.3 a.m.s.l.																												
0.6 "	31	4.0	0.3	117	30	5.1	2.9	020	31	5.0	2.8	060	30	2.8	0.8	059	30	3.1	1.3	025	29	2.8	1.0	052				
0.9 "	31	4.6	0.9	072	30	5.1	3.2	020	31	5.2	2.7	050	29	5.1	1.6	057	30	5.5	2.5	024	29	5.1	2.2	062				
1.5 "	28	4.9	2.4	025	30	5.0	3.2	011	31	5.2	2.3	025	22	6.8	2.2	043	28	5.3	2.5	008	28	4.8	1.6	049				
2.1 "	25	5.8	3.4	024	27	5.1	2.7	357	29	5.2	2.3	356	18	6.6	2.4	043	26	4.9	2.2	005	23	4.5	1.0	027				
3.0 "	23	5.6	2.7	012	23	5.5	3.1	341	27	6.3	3.3	341	9	6.2	1.2	191	19	5.4	1.9	327	20	5.3	1.2	329				
3.6 "	18	4.9	1.3	007	22	6.9	4.1	339	19	6.3	2.7	312	3	5.8	1.2	340	13	6.0	2.3	285	9	7.5	2.9	290				
4.5 "	14	6.2	1.8	304	15	7.6	5.2	304	12	6.0	2.4	270					7	5.9	3.2	289	3	7.6	4.0	270				
5.4 "	7	7.1	2.3	272	14	10.6	6.9	299	3	8.6	6.8	309					3	8.1	7.8	251	1	7.7	7.7	285				
6.0 "	5	7.3	2.1	350	13	10.8	7.0	300									3	9.6	9.5	247								
7.2 "	2	10.0	5.2	355	11	11.3	7.1	313									1	7.2	7.2	275								
9.0 "	2	9.0	3.7	293	6	8.1	4.4	313																				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR								JHARSUGUDA							
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.2	0.7	012	31	1.4	0.9	343	31	0.8	0.4	026	31	1.3	0.4	022	31	2.1	0.9	089	31	1.7	0.7	039				
0.15 a.g. . .	30	4.7	0.7	030	31	3.0	1.4	348	31	4.3	0.7	150	29	2.8	0.7	240	29	3.9	1.4	211	26	4.7	2.2	080				
0.3 a.m. s.l. .													29	2.8	0.9	224	29	3.9	1.4	104	26	4.2	1.9	073				
0.6 " . . .	30	4.6	0.4	342	31	3.2	1.7	340	31	4.3	1.0	138	29	3.8	1.2	229	29	4.3	1.6	097	26	4.8	1.7	105				
0.9 " . . .	30	4.3	1.2	283	31	3.6	2.2	340	31	4.4	1.1	096	28	4.7	0.7	284	29	4.7	1.4	091	25	5.5	1.2	098				
1.5 " . . .	28	3.9	2.0	326	30	3.8	2.8	345	31	4.1	1.7	358	26	5.1	1.2	327	28	5.5	0.3	341	24	5.3	0.4	065				
2.1 " . . .	28	4.1	3.0	335	27	4.2	3.3	345	29	4.3	2.0	334	24	5.6	1.9	311	22	5.6	2.3	272	20	5.7	1.4	003				
3.0 " . . .	26	5.0	3.0	358	24	5.3	4.3	303	27	5.7	4.6	340	23	5.2	1.7	278	16	5.2	2.5	277	18	6.2	2.5	348				
3.6 " . . .	17	5.1	3.7	009	22	5.6	4.3	320	22	8.1	4.6	343	18	5.1	3.3	251	13	6.1	4.0	272	10	6.5	1.9	337				
4.5 " . . .	7	4.2	2.9	016	19	7.0	5.6	328	9	4.7	2.5	353	8	6.9	4.8	264	10	8.0	6.6	269	2	6.7	6.4	126				
5.4 " . . .	2	2.1	1.8	304	12	9.3	8.4	312	3	6.3	3.8	339	4	8.5	7.6	278	4	10.3	1.0	273	1	3.6	3.6	195				
6.0 " . . .	2	5.1	5.0	305	8	11.3	10.2	308	1	6.7	6.7	050	2	4.9	2.0	316	3	9.9	0.9	280								
7.2 " . . .	1	2.1	2.1	250	3	14.9	13.2	305	1	7.7	7.7	045	2	5.4	3.0	315	1	15.4	15.4	260								
9.0 " . . .	1	7.7	7.7	295									1	3.1	3.1	040												

Station	JHARSUGUDA								JODHPUR																			
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.5	0.3	235	31	1.1	0.0	205	30	1.2	0.7	270	31	2.2	0.8	252	31	2.2	0.3	247	31	2.1	1.3	230				
0.15 a.g. . .	27	3.4	0.9	258	28	5.0	1.3	170	27	1.8	1.2	262	31	2.7	1.2	257	25	2.0	0.4	215	31	6.5	3.1	219				
0.3 a.m. s.l. .	27	3.5	1.4	257	28	4.2	1.2	154	30	2.0	1.1	276	31	2.6	1.2	289	31	2.4	0.5	200	31	5.6	3.1	220				
0.6 " . . .	27	4.3	1.0	274	28	5.8	1.0	168	29	4.0	1.3	265	31	3.0	1.1	235	31	3.0	0.6	232	31	6.3	3.0	216				
0.9 " . . .	27	4.8	1.2	289	28	5.7	0.7	114	29	4.2	1.6	250	31	3.5	1.5	245	31	3.0	0.3	252	31	5.0	2.0	217				
1.5 " . . .	26	5.5	1.0	328	28	5.5	0.5	087	29	3.6	0.8	275	30	4.1	0.7	102	31	3.1	0.6	341	31	3.3	0.6	025				
2.1 " . . .	22	5.3	1.9	333	26	5.5	0.6	031	30	4.3	1.2	030	29	4.2	1.3	098	31	3.0	1.2	017	31	3.9	1.7	024				
3.0 " . . .	18	5.4	2.2	289	21	6.1	2.9	293	29	4.4	2.7	030	29	3.9	1.7	064	31	3.9	2.0	360	30	4.5	2.7	020				
3.6 " . . .	17	6.5	3.2	310	16	10.3	3.5	305	27	4.4	3.2	030	28	4.0	2.2	050	30	4.4	2.8	360	12	6.3	5.0	023				
4.5 " . . .	11	8.2	4.4	328					27	5.1	3.6	024	29	4.8	2.2	018	28	5.1	3.2	356	1	4.1	4.1	289				
5.4 " . . .	3	8.1	5.6	277					27	6.3	3.9	005	29	6.8	3.5	348	27	6.8	4.1	344	1	6.2	6.2	295				
6.0 " . . .									24	7.1	4.3	012	29	7.6	3.9	337	26	8.2	4.1	337	1	9.8	9.8	290				
7.2 " . . .									23	7.8	5.6	330	19	9.5	5.8	334	25	9.8	5.8	330								
9.0 " . . .									19	8.2	6.1	325	8	14.4	11.0	303	17	11.0	7.7	310								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	MADRAS																MINICOY											
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.2	0.9	258	31	3.4	1.0	325	31	3.4	2.4	079	31	2.5	0.6	162	31	2.7	2.4	285	31	2.6	2.3	303				
0.15 a.g. . .	31	5.5	1.1	166	30	4.7	1.4	325	31	6.4	4.8	084	31	5.2	2.1	121	31	5.2	4.4	295	29	4.6	4.1	300				
0.3 a.m. s.l. .	31	5.7	1.0	179	30	4.7	1.6	304	31	6.2	4.4	078	31	5.6	2.3	110	31	5.1	4.5	299	29	5.2	4.4	305				
0.6 „ . .	31	5.8	0.6	245	30	5.1	1.6	312	31	5.3	2.8	037	31	5.2	1.9	082	31	5.3	4.6	301	29	5.3	4.5	308				
0.9 „ . .	31	5.7	0.6	346	29	5.3	2.1	332	31	5.6	2.2	360	31	5.1	1.5	040	31	5.2	4.2	306	29	5.5	4.5	307				
1.5 „ . .	31	6.3	2.6	003	26	5.6	2.2	360	31	6.0	2.6	345	27	5.7	2.6	340	31	5.3	3.4	316	29	5.2	3.4	308				
2.1 „ . .	31	5.9	2.9	354	23	6.5	2.2	355	31	6.6	2.6	342	27	6.3	3.5	326	31	5.2	2.8	317	29	5.3	2.5	303				
3.0 „ . .	31	5.3	1.8	005	59	6.3	2.6	327	31	6.3	1.9	320	23	6.3	3.0	311	23	5.4	2.2	331	28	5.8	1.7	325				
3.6 „ . .	31	5.9	1.9	350	16	5.9	2.1	312	31	6.0	1.6	336	11	6.2	2.4	344	7	3.8	2.2	132	25	6.2	1.6	336				
4.5 „ . .	31	6.3	1.5	046	11	5.6	2.2	337	31	5.4	0.9	034	1	6.2	6.2	255	1	4.1	4.1	080	21	4.9	1.2	076				
5.4 „ . .	30	6.1	1.4	074	8	6.3	2.8	275	31	5.0	0.4	021					1	5.7	5.7	090	21	4.7	1.1	096				
6.0 „ . .	30	5.8	1.1	109	7	5.5	2.2	202	31	5.0	0.3	070					1	6.2	6.2	090	20	5.3	3.2	099				
7.2 „ . .	30	5.3	2.2	114	5	6.3	5.4	160	31	5.2	0.9	140									19	5.7	3.7	087				
9.0 „ . .	28	5.7	4.4	118					28	6.8	4.8	118									14	6.7	4.6	116				

Station	MINICOY				MOHANBARI								NAGPUR															
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . .	31	2.3	2.0	304	31	0.1	0.1	045	31	0.4	0.2	037	31	0.2	0.2	045	31	0.6	0.4	345	31	1.6	0.2	300				
0.15 a.g. . .	30	4.5	3.9	297	24	3.3	3.1	061	29	2.6	1.5	054	25	3.1	2.4	050	31	5.0	2.8	024	31	3.5	0.8	351				
0.3 a.m. s.l. .	30	4.5	4.0	303	24	3.4	2.9	056	29	2.5	1.5	061	25	2.9	2.2	046												
0.6 „ . .	30	4.5	3.9	307	23	3.7	2.7	044	29	2.8	1.8	070	25	2.7	1.8	060	31	4.8	2.1	037	31	3.4	0.8	062				
0.9 „ . .	29	4.5	3.5	311	23	3.4	2.0	051	28	2.9	1.5	080	25	2.8	2.0	031	31	4.9	1.5	060	31	3.7	1.3	055				
1.5 „ . .	29	4.9	3.1	303	22	2.7	1.4	087	27	2.9	1.1	168	22	2.6	0.9	158	31	5.8	1.5	073	28	5.1	2.1	026				
2.1 „ . .	29	5.1	1.8	311	19	2.5	0.9	143	26	3.1	2.1	194	19	2.4	1.7	224	31	5.6	2.9	015	21	5.2	3.4	016				
3.0 „ . .	27	5.0	1.1	341	18	3.7	1.8	246	19	3.9	2.7	217	17	3.9	3.0	223	31	5.6	2.6	009	19	5.4	2.9	001				
3.6 „ . .	25	5.0	0.7	343	14	4.7	2.4	240	8	2.3	2.0	219	7	4.6	3.4	237	31	5.7	1.9	357	18	6.0	3.1	336				
4.5 „ . .	20	3.9	2.0	091	11	6.0	3.1	262	3	2.2	1.0	326	2	2.8	2.1	235	30	6.9	2.2	310	16	6.9	2.8	331				
5.4 „ . .					8	6.4	1.7	266					1	9.3	9.3	235	27	7.2	2.9	303	13	7.3	3.9	332				
6.0 „ . .					6	8.6	3.5	252									27	8.1	3.7	305	13	6.9	4.0	203				
7.2 „ . .																	25	8.2	3.1	297	9	8.9	4.6	287				
9.0 „ . .																	18	10.9	6.7	256	9	11.2	8.1	265				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	NAGPUR								NANPARA								NEW DELHI							
	1730*				2330				0530				1730				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.3	0.7	359	31	1.1	0.7	042	31	0.8	0.6	085	31	1.3	0.3	061	31	1.7	0.6	130	31	2.3	0.8	273
0.15 a.g. . .	31	4.6	2.3	059	30	5.0	2.2	068	29	4.7	2.8	113	30	4.5	0.7	052	31	4.7	1.9	185	31	3.3	1.0	307
0.3 a.m.s.l. .									29	4.8	2.7	117	30	4.5	0.5	059	31	4.4	2.0	184	31	3.2	0.8	309
0.6 „ . . .	31	4.4	2.2	021	30	5.2	2.7	066	29	5.0	1.7	137	30	4.8	0.6	100	31	4.4	1.5	200	31	3.0	1.0	303
0.9 „ . . .	31	4.5	2.0	019	30	4.9	2.6	053	26	4.8	0.4	086	30	5.0	0.3	279	31	4.3	1.1	253	31	3.7	2.0	300
1.5 „ . . .	31	4.8	1.9	016	30	4.7	2.3	031	24	5.8	2.4	310	29	6.0	1.1	291	31	5.2	3.2	320	28	5.3	3.8	315
2.1 „ . . .	31	5.1	2.3	005	27	5.0	2.6	015	22	5.3	2.2	323	27	6.2	2.5	298	31	6.5	5.6	326	28	6.6	5.5	319
3.0 „ . . .	30	6.0	2.7	335	23	5.1	2.7	348	20	5.5	1.7	326	26	5.2	2.8	295	31	7.2	6.6	330	28	5.6	4.2	326
3.6 „ . . .	29	6.0	2.3	324	20	5.6	3.4	333	14	6.3	3.5	313	22	5.0	1.6	291	31	6.1	5.3	335	27	5.9	4.4	328
4.5 „ . . .	29	7.2	2.5	278	9	4.7	1.7	309	9	6.9	2.8	307	17	5.6	3.4	301	31	6.7	5.3	330	25	6.6	5.4	307
5.4 „ . . .	28	7.6	3.8	281	2	3.3	3.1	337	7	6.3	1.8	029	13	8.4	6.5	298	31	7.8	6.1	321	23	9.3	7.3	303
6.0 „ . . .	27	7.8	3.7	283	1	3.6	3.6	325	6	7.4	0.9	341	12	7.9	5.4	303	31	8.6	6.6	311	20	10.5	7.3	300
7.2 „ . . .	26	8.9	4.8	281					4	7.2	5.8	013	11	11.0	8.9	307	31	10.4	8.0	303	12	15.1	12.1	292
9.0 „ . . .	20	11.2	8.4	272					4	7.1	6.8	347	7	9.9	8.0	307	31	13.6	11.5	290	2	23.4	22.8	290

Station	NEW DELHI								POONA								PORT BLAIR							
	1730*				2330				0530				1730				2330				0530*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.7	0.8	345	31	0.7	0.1	119	31	0.6	0.5	240	31	1.6	0.6	282	31	0.7	0.5	244	31	1.6	0.3	124
0.15 a.g. . .	31	5.6	2.6	344	31	5.1	1.9	065	31	4.0	1.6	258	31	4.7	1.9	279	31	4.3	2.5	266	31	5.6	1.8	170
0.3 a.m.s.l. .	31	5.5	2.5	345	31	4.4	1.3	072													31	5.4	1.4	182
0.6 „ . . .	31	4.6	2.5	341	31	5.1	1.3	051	31	2.1	1.5	243	31	3.3	1.2	294	31	2.0	1.5	253	31	6.5	1.8	189
0.9 „ . . .	31	4.5	2.5	337	31	4.7	1.6	337	31	5.8	0.8	268	31	5.3	2.1	277	31	5.7	2.1	282	29	6.6	2.5	205
1.5 „ . . .	31	5.0	3.8	317	31	5.3	4.2	311	26	6.9	2.4	068	26	5.4	1.2	281	28	6.9	1.0	046	30	6.1	1.9	183
2.1 „ . . .	31	6.0	4.8	321	30	6.3	5.1	311	25	5.2	2.4	088	21	3.9	1.7	051	26	5.5	2.4	082	30	5.2	2.0	170
3.0 „ . . .	31	6.0	5.5	320	25	5.8	4.5	318	18	5.3	1.0	345	19	4.6	1.8	055	24	3.9	1.0	090	30	5.3	1.5	150
3.6 „ . . .	31	6.4	5.7	326	3	3.2	2.2	350	16	4.6	1.1	270	16	5.3	1.3	320	19	4.5	0.6	348	30	4.9	1.2	154
4.5 „ . . .	31	7.7	6.5	320					6	4.0	1.5	283	13	5.2	1.1	081	10	3.6	2.1	008	30	5.0	1.4	100
5.4 „ . . .	31	8.9	7.6	311									12	5.8	1.2	018	5	3.6	3.4	355	28	4.6	2.6	100
6.0 „ . . .	31	9.9	8.0	308									12	6.3	2.1	354	3	6.5	5.2	345	28	4.9	2.8	083
7.2 „ . . .	31	12.0	9.8	306									10	7.4	2.4	335					27	5.8	4.1	099
9.0 „ . . .	29	15.7	13.5	293									8	9.5	5.2	273					21	6.5	4.7	102

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	PORT BLAIR												RAIPUR															
	1130				1730*				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.1	0.8	165	31	2.3	0.3	153	31	2.2	0.6	112	31	1.6	0.4	050	31	1.4	0.7	023	31	1.7	0.6	154				
0.15 a.g.	31	5.0	0.7	151	30	5.8	1.4	202	29	4.4	1.6	149	31	4.9	1.1	049	30	4.4	1.3	040	30	5.4	1.3	097				
0.3 a.m.s.l.	31	5.3	1.2	165	30	6.0	1.6	196	29	4.5	1.5	149																
0.6 „	31	6.0	1.7	167	30	6.0	1.7	196	29	4.9	1.9	152	31	5.4	1.2	047	30	5.0	1.6	036	30	5.7	1.5	086				
0.9 „	30	6.5	2.4	158	30	6.7	1.9	188	28	5.1	2.3	162	31	5.4	1.2	053	30	5.1	1.6	041	30	5.2	1.5	075				
1.5 „	28	6.4	2.5	152	30	6.8	2.1	181	24	4.1	1.7	190	30	5.4	1.5	015	29	4.8	1.6	021	30	4.9	1.7	037				
2.1 „	24	6.2	3.1	143	30	5.8	2.1	163	22	3.3	1.4	175	28	6.0	2.9	357	29	5.0	1.8	358	29	4.8	1.4	015				
3.0 „	20	5.8	3.3	148	30	5.2	1.7	163	18	2.5	0.9	164	24	6.1	3.1	357	21	5.9	1.9	360	26	6.2	2.1	338				
3.6 „	14	4.6	2.5	143	30	4.9	1.9	142	16	2.4	1.4	086	12	4.6	1.2	359	17	6.0	2.4	348	14	6.5	1.2	235				
4.5 „	11	4.1	1.8	163	29	4.9	2.2	105	14	2.4	1.4	055	1	11.8	11.8	025	10	6.2	4.1	328	1	9.3	9.3	170				
5.4 „	4	4.6	3.8	092	28	5.3	3.1	093	4	1.9	1.5	057					5	7.4	6.5	349								
6.0 „	4	4.0	3.1	079	28	5.0	3.0	102	4	1.4	1.4	063					5	6.8	5.7	344								
7.2 „	4	3.6	2.9	064	27	5.1	3.8	096									2	7.7	7.2	330								
9.0 „					15	7.6	5.8	106																				

Station	RAXAUL								SANTA CRUZ																			
	0530				1730				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.8	0.7	088	31	1.0	0.4	097	31	2.0	1.1	120	31	2.8	1.0	198	31	4.6	2.6	271	31	1.6	0.1	237				
0.15 a.g.	28	5.2	4.5	088	27	3.7	0.3	178	31	5.4	1.4	090	31	4.1	1.3	181	31	6.6	3.9	272	29	5.0	1.2	339				
0.3 a.m.s.l.	28	5.5	4.5	099	27	3.8	0.1	160	31	5.4	1.4	095	30	5.2	1.5	171	31	6.4	3.4	267	29	5.8	1.6	337				
0.6 „	28	6.5	4.7	110	27	4.4	0.7	147	31	6.7	1.5	130	28	5.8	1.3	131	31	6.3	3.1	253	27	6.5	2.7	352				
0.9 „	25	7.4	4.8	105	27*	4.7	0.6	194	31	6.9	1.9	130	18	6.0	3.5	285	31	6.1	2.4	247	26	6.3	2.6	013				
1.5 „	20	5.8	2.4	092	24	5.2	0.4	245	31	6.2	1.4	105	16	5.3	3.4	066	31	5.7	1.6	183	25	5.3	2.0	052				
2.1 „	16	4.1	0.5	320	21	4.9	0.1	283	31	5.7	1.4	245	15	4.9	3.2	066	31	6.6	1.4	164	25	5.7	2.7	092				
3.0 „	8	6.0	1.5	048	13	4.2	1.7	266	30	6.0	1.2	255	15	6.0	2.7	069	31	6.6	1.7	198	19	5.7	1.5	079				
3.6 „	4	3.4	0.4	351	9	3.7	1.6	073	30	6.4	0.9	245	15	5.9	2.1	059	31	6.6	1.3	181	10	5.1	0.7	190				
4.5 „	4	2.9	2.0	272	6	3.2	2.4	267	30	6.6	0.9	235	15	6.4	2.2	049	31	7.1	1.8	202	2	5.9	4.7	075				
5.4 „	3	4.3	3.1	251	5	8.2	6.6	263	30	6.9	0.7	203	15	6.6	2.8	084	31	7.3	1.2	189								
6.0 „	2	8.5	8.2	260	4	11.1	8.0	262	30	7.3	1.0	230	15	7.3	3.1	046	31	7.6	0.9	194								
7.2 „	1	6.2	6.2	305	1	12.9	12.9	310	28	7.4	2.7	235	15	7.5	2.0	052	30	7.7	1.6	268								
9.0 „									27	6.9	3.2	265	10	10.7	2.8	078	27	6.7	2.6	268								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.7	0.6	083	31	0.4	0.3	075	31	0.4	0.3	103	31	3.8	2.9	287	31	3.4	0.9	291	31	3.4	1.1	276				
0.15 a.g. . .	27	3.9	3.1	075	27	3.2	1.4	078	25	3.4	1.9	104	31	7.7	5.6	296	30	5.6	1.3	327	29	6.4	1.3	233				
0.3 a.m.s.l. .	27	4.0	3.3	081	27	3.3	2.1	082	25	3.4	1.7	105	31	8.0	5.6	295	30	5.6	1.3	333	29	6.9	1.6	234				
0.5 „ . . .	26	4.8	4.0	088	27	3.3	1.5	097	25	3.5	1.5	118	31	8.7	4.8	298	30	5.5	1.3	338	29	6.9	1.1	201				
0.9 „ . . .	24	4.8	4.3	086	26	3.6	0.8	121	25	3.8	1.0	137	30	6.2	2.7	310	30	5.6	1.7	339	27	6.7	0.3	288				
1.5 „ . . .	23	4.5	2.4	077	23	3.1	1.8	233	24	3.4	1.8	247	29	4.4	1.5	357	29	6.3	2.0	342	24	5.6	2.4	030				
2.1 „ . . .	20	4.1	0.3	122	21	3.1	2.2	242	22	4.0	3.0	245	29	4.7	2.2	004	29	6.2	2.3	339	23	5.7	3.2	019				
3.0 „ . . .	14	4.6	0.5	222	19	3.9	2.4	247	17	4.7	4.1	249	25	4.9	2.1	341	24	5.8	1.9	339	18	6.1	2.9	024				
3.6 „ . . .	12	5.4	2.2	254	14	4.0	3.1	256	9	5.3	4.7	258	21	5.5	2.1	322	22	6.4	1.9	328	13	6.2	2.0	029				
4.5 „ . . .	9	5.5	3.7	298	7	4.8	2.5	269	5	4.0	3.0	339	11	4.8	1.5	341	22	6.4	2.1	344	5	5.9	1.9	026				
5.4 „ . . .	7	6.0	2.2	252	2	6.4	6.3	258	1	2.1	2.1	225	7	5.5	2.5	099	17	6.7	1.4	032	1	5.1	5.1	100				
6.0 „ . . .	6	6.5	4.6	326	1	5.7	5.7	245					4	6.0	4.3	070												
7.2 „ . . .	2	10.0	5.7	288													14	6.6	3.5	070								
9.0 „ . . .	1	17.1	17.0	235													11	6.7	5.1	093								
																	6	6.6	5.8	108								

Station	TRIVANDRUM												UDAIPUR															
	0530*				1130				1730*				2330				0530			1730								
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.9	1.6	345	31	2.4	1.9	297	31	3.4	3.1	294	31	1.8	1.6	338	31	0.1	0.1	335	31	0.8	0.1	210				
0.15 a.g. . .	31	4.7	4.3	329	28	4.1	3.4	292	31	5.5	5.2	294	29	4.8	4.5	226	31	2.1	0.9	319	31	3.1	0.1	031				
0.3 a.m.s.l. .	31	6.1	5.7	326	28	4.3	3.4	296	31	5.8	5.3	297	29	5.7	5.3	223												
0.6 „ . . .	31	5.9	5.2	316	27	4.7	3.9	309	31	5.8	4.9	304	29	6.3	5.8	317												
0.9 „ . . .	31	6.5	4.9	317	24	5.5	4.5	317	31	5.8	4.1	316	29	6.2	5.5	319	31	3.1	0.3	046	31	3.6	0.6	015				
1.5 „ . . .	31	6.6	3.0	296	14	5.4	3.7	350	31	5.9	2.9	332	28	6.4	4.3	330	31	4.0	2.7	087	31	3.5	1.8	055				
2.1 „ . . .	31	6.2	2.5	323	8	5.3	3.3	036	31	5.8	2.0	360	26	6.4	2.2	343	31	5.5	3.9	068	30	4.1	2.8	061				
3.0 „ . . .	31	5.8	1.7	346	7	5.1	3.8	042	31	5.9	2.0	341	24	5.6	1.4	339	29	6.2	3.5	076	27	4.2	2.3	047				
3.6 „ . . .	31	5.5	1.3	359	6	4.0	2.5	317	31	6.0	1.2	360	18	5.0	0.9	030	26	4.8	3.1	054	24	4.4	1.9	307				
4.5 „ . . .	31	4.9	1.0	072	6	4.5	2.6	069	31	5.4	0.9	038	12	5.0	1.6	081	14	5.2	3.7	029	19	4.7	2.6	358				
5.4 „ . . .	31	5.4	2.2	110	4	3.1	2.1	072	31	5.9	2.7	082	5	3.3	2.9	092	6	6.3	4.1	024	17	7.6	3.8	345				
6.0 „ . . .	31	6.1	3.0	095	3	4.6	4.6	095	31	6.3	3.5	099	1	4.6	4.6	103	3	5.7	5.2	320	15	8.5	3.5	002				
7.2 „ . . .	31	6.7	3.9	097	3	7.1	6.9	100	30	6.0	3.8	098									12	9.2	5.6	330				
9.0 „ . . .	29	8.2	6.9	097	2	4.6	4.1	121	30	8.9	7.6	110									6	6.8	2.7	353				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9 km. above mean sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Station	UDAIPUR				VENGURLA								VERAVAL											
	2330				0530				1730				2330				0530*				1130			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.3	0.1	313	31	0.3	0.1	333	31	2.0	1.5	260	31	0.5	0.1	328	31	3.3	2.6	355	31	4.8	1.5	017
0.15 a. g. . .	31	2.4	0.8	317	31	4.1	1.9	038	31	4.4	3.4	278	31	4.3	2.6	343	31	6.7	4.4	359	29	6.0	2.3	347
0.3 a.m.s.l. . .					31	5.0	1.9	026	31	5.1	4.0	282	31	5.2	3.4	335	31	6.7	4.0	001	29	6.1	2.7	359
0.6 „ . . .					30	6.1	2.5	018	31	5.1	3.4	290	31	5.9	3.6	329	31	6.7	3.0	006	29	6.2	2.6	019
0.9 „ . . .	31	3.2	0.6	007	30	6.9	2.5	017	29	4.9	2.6	315	30	6.1	3.0	334	31	6.5	2.2	015	25	5.6	3.3	064
1.5 „ . . .	31	3.8	2.8	071	29	7.1	1.7	031	27	6.1	2.0	013	28	6.4	1.9	017	31	6.9	2.5	066	23	5.7	3.9	093
2.1 „ . . .	30	4.7	3.7	081	26	5.9	1.5	053	23	7.1	2.7	055	27	6.7	1.5	062	30	6.2	3.0	082	22	5.4	3.5	078
3.0 „ . . .	30	5.3	3.4	062	24	5.2	1.2	080	12	6.3	1.6	049	26	5.7	1.5	085	30	6.1	2.4	046	22	5.8	2.8	063
3.6 „ . . .	29	4.7	2.4	045	3	4.5	2.1	055	21	6.3	0.6	345	7	6.2	2.3	011	30	6.3	2.5	052	21	5.1	1.6	086
4.5 „ . . .	19	5.5	2.2	002					18	6.2	1.6	265					30	6.8	2.6	029	20	5.6	1.7	079
5.4 „ . . .	12	7.1	4.3	345					17	5.8	0.8	273					30	8.4	4.4	031	20	6.9	2.4	051
6.0 „ . . .	9	8.5	6.2	330					14	5.6	1.6	022					29	9.8	4.3	016	20	7.5	2.2	042
7.2 „ . . .	4	9.8	7.9	279					4	6.4	3.6	025					26	9.3	2.9	345	19	9.0	2.2	353
9.0 „ . . .																	15	6.8	1.9	319	8	9.3	5.1	302

Station	VERAVAL				VISAKHAPATNAM															
	1730*				2330				0530				1730				2330			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	5.8	3.5	293	31	3.3	2.2	331	31	0.7	0.6	017	31	2.7	1.0	116	31	1.0	0.7	092
0.15 a. g. . .	30	7.6	5.3	279	30	5.6	3.0	325	26	2.5	0.9	338	27	4.0	1.4	117	26	2.9	0.1	148
0.3 a.m.s.l. . .	30	6.6	4.4	282	28	5.6	3.3	324	26	3.2	0.8	350	27	4.2	1.5	112	26	3.4	0.1	136
0.6 „ . . .	30	6.3	3.1	301	28	5.7	2.5	336	26	3.7	1.0	021	27	4.5	1.0	099	26	4.1	1.0	044
0.9 „ . . .	30	6.6	3.4	335	27	5.5	2.3	003	25	3.9	1.1	029	27	4.7	0.6	043	26	4.4	1.6	037
1.5 „ . . .	30	7.4	4.0	011	22	5.8	2.8	043	24	4.6	1.0	020	23	5.5	2.6	358	24	4.8	2.0	032
2.1 „ . . .	30	6.6	3.2	024	23	6.1	4.2	069	23	4.8	1.8	354	22	5.6	3.1	337	22	4.4	0.9	026
3.0 „ . . .	27	7.2	2.3	013	20	6.0	3.2	059	16	4.7	2.9	335	18	6.0	3.2	321	19	4.5	0.9	297
3.6 „ . . .	26	6.7	2.6	007	9	5.3	1.7	190	12	4.2	2.4	336	16	6.5	3.0	306	9	5.8	1.6	054
4.5 „ . . .	26	8.1	3.3	029	5	5.6	0.7	116	5	5.1	3.4	050	12	5.5	3.0	284	1	6.7	6.7	045
5.4 „ . . .	26	9.6	4.0	024	2	6.4	2.5	112	3	4.8	2.7	351	7	6.7	4.1	266				
6.0 „ . . .	25	10.7	3.2	050	1	6.2	6.2	115	1	2.1	2.1	350	7	7.1	4.8	269				
7.2 „ . . .	24	9.6	4.1	004					1	4.1	4.1	325	6	7.2	5.2	282				
9.0 „ . . .	18	8.5	3.4	013									2	10.3	10.3	258				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km above sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D					
	AGARTALA					ASANSOL					BAREILLY					DUM DUM					GORAKHPUR 1730 hrs.			
	(530 hrs.)					0530 hrs.					1730 hrs.					1730 hrs.*				10.5	2	6.2	6.2	317
10.5	3	12.0	9.3	260	10.5	3	7.6	0.8	358	10.5	3	6.5	5.5	292	10.5	24	11.0	9.0	249	12.0	1	15.4	15.4	260
					12.0	2	3.6	1.6	302	12.0	3	7.2	6.1	276	12.0	23	11.8	9.3	250	14.1	1	22.1	22.1	250
	AMAUSI				14.1	1	5.1	5.1	095	14.1	2	6.2	3.3	287	14.1	14	14.5	11.4	255					
	1730 hrs.					BAIRAGARH					BEGUMPET					1730 hrs.					GWALIOR 0530 hrs.			
10.5	1	8.2	8.2	015		1730 hrs.					0530 hrs.				18.0	2	19.0	18.8	232	10.5	4	12.1	9.8	259
					10.5	3	12.4	6.6	270	10.5	1	18.0	18.0	205		GADAG				12.0	3	5.0	3.3	248
	AMBALA				12.0	2	19.6	10.8	277	12.0	1	20.6	20.6	225		1730 hrs.				14.1	2	2.1	1.1	348
	1730 hrs.				14.1	1	10.8	10.8	040	14.1	1	19.0	19.0	235	10.5	1	7.2	7.2	085	16.2	2	5.4	5.3	071
10.5	8	16.0	14.5	291		BAJPE				16.2	1	11.3	11.3	075		GANNAVARAM				18.0	2	9.3	9.3	078
12.0	6	12.9	11.8	291		1730 hrs.				18.0	1	2.6	2.6	325		1730 hrs.								
14.1	6	12.7	11.1	282		1730 hrs.					1730 hrs.				10.5	1	11.8	11.8	250		1730 hrs.			
16.2	4	11.0	9.4	296	10.5	3	6.8	6.8	105	10.5	3	7.6	6.5	274	12.0	1	13.4	13.4	230	10.5	7	12.9	9.1	284
18.0	3	7.6	7.3	301	12.0	1	13.9	13.9	070	12.0	1	12.9	12.9	265		GAUHATI				12.0	3	20.1	14.8	280
	AMRITSAR					BAMRAULI					BHAGALPUR					0530 hrs.*					JABALPUR 0530 hrs.			
	0530 hrs.*					0530 hrs.*				10.5	1	6.7	6.7	320	10.5	12	12.0	10.1	263	10.5	1	11.8	11.8	255
10.5	17	19.7	18.7	280	10.5	25	11.6	8.6	267	10.5	1	6.7	6.7	320	12.0	9	17.7	13.8	267	10.5	1	11.8	11.8	255
12.0	12	18.2	17.7	274	12.0	18	9.1	6.3	270	10.5	1	3.1	3.1	075	14.1	8	18.3	14.9	275		1730 hrs.			
14.1	5	21.5	20.6	284	14.1	8	6.9	3.8	150		1730 hrs.				16.2	5	8.7	5.7	347	10.5	2	8.5	3.8	312
16.2	3	27.9	27.0	284	16.2	1	6.7	6.7	060		1130 hrs.				10.5	1	16.0	16.0	245	12.0	1	13.9	13.9	295
18.0	1	71.8	71.8	270		1130 hrs.				10.5	7	7.2	4.4	320	14.1	1	19.0	19.0	270	14.1	1	13.9	13.9	290
	1730 hrs.*				10.5	1	7.7	7.7	315	12.0	5	6.2	5.0	012	16.2	1	13.9	13.9	265	16.2	1	10.8	10.8	305
10.5	20	22.0	20.3	290		1730 hrs.*				14.1	5	3.9	1.9	075	18.0	1	14.4	14.4	270		JAIPUR 0530 hrs.			
12.0	18	23.1	22.1	285	10.5	26	14.7	11.8	269	16.2	3	6.0	4.2	126		1730 hrs.*				10.5	1	7.7	7.7	320
14.1	8	20.5	20.0	281	12.0	21	14.7	11.0	265	18.0	2	6.2	4.2	102	10.5	13	13.9	10.5	256	12.0	1	2.6	2.6	270
16.2	1	8.7	8.7	290	14.1	8	10.7	8.7	285	21.0	1	28.3	28.3	030	12.0	11	13.6	8.9	265	14.1	1	2.6	2.6	210
	ANANTAPUR				16.2	1	8.2	8.2	020		COCHIN				4.1	7	12.1	5.3	261	16.2	1	5.7	5.7	060
	0530 hr.				18.0	1	5.1	5.1	070	10.5	1	3.6	3.6	100	16.2	4	8.0	5.8	004		JODHPUR 0530 hrs.*			
10.5	6	4.1	1.5	137		BANGALORE					DEHRA DUN				18.0	3	8.9	6.9	067		1730 hrs.*			
12.0	2	6.7	6.6	104		0530 hrs.				10.5	1	26.2	26.2	270	21.0	1	9.8	9.8	030	10.5	14	9.7	5.4	300
	1730 hrs.				10.5	2	13.1	11.1	077	12.0	1	27.8	27.8	265		GAYA				12.0	6	12.6	9.4	300
10.5	5	3.2	1.6	116	12.0	1	14.9	14.9	125		DUM DUM				10.5	1	10.8	10.8	080	14.1	2	8.2	8.2	305
					14.1	1	5.1	5.1	070		0530 hrs.*					1130 hrs.					1730 hrs.*			
						1730 hrs.				10.5	22	10.7	8.9	248		GOPALPUR				10.5	2	13.9	11.6	301
					10.5	4	12.0	11.4	108	12.0	18	12.2	9.1	258		0530 hrs.								
					12.0	4	18.3	17.4	094	14.1	11	14.0	9.4	255	10.5	1	12.4	12.4	260					
					14.1	1	16.0	16.0	105	16.2	5	14.3	13.1	249		1730 hrs.				10.5	8	14.1	11.3	290
					16.2	1	19.6	19.6	085	18.0	2	6.4	4.4	360						12.0	2	12.1	7.6	288
					18.0	1	16.5	16.5	090	21.0	1	12.4	12.4	290	10.5	1	13.9	13.9	270	14.1	1	8.7	8.7	050

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above sea level

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	MADRAS					NANPARA					PORT BLAIR					TRIVANDRUM			
	0530 hrs.*					0530 hrs.					1730 hrs.*					1730 hrs.*			
10.5	26	9.7	8.3	115	21.0	1	7.7	7.7	335	10.5	6	9.2	5.3	103	10.5	29	12.5	11.9	102
12.0	25	11.9	10.0	109	24.0	1	3.6	3.6	105	12.0	2	11.3	10.4	078	12.0	25	17.0	15.9	096
14.1	17	13.6	11.1	104	27.0	1	8.2	8.2	270	14.1	1	2.1	2.1	300	14.1	15	20.5	18.6	094
16.2	14	14.1	12.4	100	30.0	1	8.7	8.7	345		SANTA CRUZ				16.2	7	23.2	22.3	095
18.0	3	9.1	6.3	095		1730 hrs.					0530 hrs.*				18.0	1	8.2	8.2	100
21.0	2	4.9	3.5	090	10.5	3	8.1	6.6	251	10.5	20	6.8	1.5	225	21.0	1	3.6	3.6	210
	1730 hrs.*				12.0	2	11.6	8.3	257	12.0	13	8.6	2.3	315		UDAIPUR			
10.5	24	9.3	7.3	108	14.1	1	11.8	11.8	265	14.1	7	7.4	3.9	025	10.5	3	5.7	5.1	021
12.0	19	12.8	11.1	095		NEW DELHI				16.2	4	9.9	9.4	055	12.0	2	3.3	2.3	311
14.1	18	16.2	14.9	101		0530 hrs.*				18.0	2	16.5	9.8	130	14.1	2	4.1	2.1	335
16.2	10	15.5	14.4	091	10.5	31	16.2	14.6	283		1130 hrs.				16.2	1	7.7	7.7	045
18.0	5	9.2	7.7	101	12.0	29	15.0	13.6	284	10.5	7	8.2	3.9	186	18.0	1	8.7	8.7	135
21.0	2	5.4	4.1	127	14.1	25	12.8	11.1	290	12.0	3	6.0	1.4	175		VERAVAL			
	MINICOY				16.2	21	8.7	7.7	295	14.1	1	4.6	4.6	255		0530 hrs.*			
	1730 hrs.				18.0	13	3.4	1.4	321		1730 hrs.*				10.5	9	8.1	1.6	350
10.5	4	8.2	7.7	116	21.0	3	9.9	6.2	351	10.5	23	8.2	2.1	273	12.0	6	8.7	1.4	339
12.0	4	12.0	10.8	120	24.0	1	15.4	15.4	110	12.0	14	7.8	2.0	355	14.1	2	6.4	4.1	138
	NAGPUR				10.5	1	28.3	28.3	265	14.1	8	11.3	6.2	008		1130 hrs.			
	0530 hrs.*				12.0	1	38.5	38.5	255	16.2	3	14.6	14.6	060	10.5	2	10.0	4.8	312
10.5	13	17.3	15.0	256		1730 hrs.*				18.0	1	10.8	10.8	060		1730 hrs.*			
12.0	11	18.6	15.7	260	10.5	26	15.5	12.9	277		TEZPUR				10.5	12	7.4	3.0	023
14.1	10	13.6	11.5	257	12.0	25	16.4	14.2	275		0530 hrs.				12.0	11	7.2	4.3	069
16.2	8	6.5	3.7	270	14.1	21	11.6	8.3	272	10.5	1	18.0	18.0	235	14.1	6	8.9	8.0	071
18.0	3	3.4	2.7	127	16.2	14	10.6	5.6	303	12.0	1	16.0	16.0	260	16.2	3	12.7	9.4	069
	1130 hrs.				18.0	7	10.2	1.4	330		TIRUCHIRAPALLI					0530 hrs.*			
10.5	8	16.1	11.1	246	21.0	4	10.6	3.7	215		1730 hrs.				10.5	12	7.4	3.0	023
12.0	4	18.1	11.7	203		POONA				10.5	2	7.2	7.1	085	12.0	11	7.2	4.3	069
14.1	2	16.7	8.9	241		1730 hrs.				12.0	1	12.9	12.9	105	14.1	6	8.9	8.0	071
	1730 hrs.*				10.5	5	9.2	3.7	241		TRIVANDRUM				16.2	3	12.7	9.4	069
10.5	15	14.3	10.7	260	10.5	5	9.9	2.4	240		0530 hrs.*					1730 hrs.*			
12.0	13	13.2	9.4	257	12.0	5	8.9	4.2	117	10.5	28	11.6	11.0	100	10.5	12	7.4	3.0	023
14.1	8	12.3	10.5	248	14.1	5	8.9	4.2	117	12.0	26	16.9	15.8	097	12.0	11	7.2	4.3	069
16.2	4	8.2	2.5	291	16.2	2	13.1	8.2	087	14.1	19	18.7	18.2	094	14.1	6	8.9	8.0	071
18.0	3	5.5	3.6	327	18.0	2	10.3	10.0	116	18.0	3	14.9	9.9	093	16.2	3	12.7	9.4	069
	NANPARA					PORT BLAIR					1130 hrs.					0530 hrs.*			
	0530 hrs.					0530 hrs.*					1730 hrs.					1730 hrs.*			
10.5	2	2.3	1.9	339	10.5	13	8.4	6.1	111	10.5	1	7.7	7.7	115		1730 hrs.*			
12.0	1	5.1	5.1	355	12.0	7	12.0	8.3	133		TEZPUR					1730 hrs.*			
14.1	1	6.7	6.7	305	14.1	3	10.1	6.6	125		0530 hrs.					1730 hrs.*			
16.2	1	2.6	2.6	275	16.2	2	10.8	9.6	112		1130 hrs.					1730 hrs.*			
18.0	1	2.1	2.1	065	18.0	2	10.8	9.6	112		1730 hrs.					1730 hrs.*			

RADIOSONDE DATA
October 1959 (Asvina 9—Kartika 9, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

Serial No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October, 1944 . . . . .	. . . . . 00 and 12	
2	Amritsar	Clock type	21st June, 1957 . . . . .	. . . . . 00 and 12	
3	Bombay	Clock type	7th September, 1954 . . . . .	. . . . . 00 and 12	
4	Calcutta	Clock type	13th December, 1946 . . . . .	. . . . . 00 and 12	. Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July, 1955 . . . . .	. . . . . 00 and 12	
6	Jodhpur	Clock type	17th April, 1946 . . . . .	. . . . . 00 and 12	
7	Madras	Fan type	29th June, 1946 . . . . .	. . . . . 00 and 12	
8	Nagpur	Fan type	1st October, 1946 . . . . .	. . . . . 00 and 12	
9	New Delhi	Clock type	3rd December, 1943 . . . . .	. . . . . 00 and 12	
10	Port Blair	Fan type	4th December, 1949 . . . . .	. . . . . 00 and 12	
11	Trivandrum	Fan type	1st July, 1947 . . . . .	. . . . . 00 and 12	
12	Veraval	Fan type	3rd October, 1944 . . . . .	. . . . . 00 and 12	
13	Visakhapatnam	Fan type	8th December, 1946 . . . . .	. . . . . 00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1006 mb.)						NAGPUR (973 mb.)						NEW DELHI (985 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	31	015	299.1	303	296	296.9	31	311	294.7	298	291	293.5	31	210	294.2	299	289	292.3
1000	31	066	..	..	..	..	31	075	..	..	..	..	31	079	..	..	..	..
900	31	991	294.7	297	293	294.7	31	996	295.5	298	293	288.6	31	998	295.4	302	291	286.2
850	31	1485	291.6	294	290	287.1	31	1492	292.4	295	289	285.5	31	1494	292.1	297	288	282.6
800	31	2005	288.7	291	286	284.3	31	2012	288.8	292	286	282.5	31	1996	288.3	292	285	278.3
700	31	3128	282.6	287	278	278.0	30	3136	282.5	287	278	273.5	31	3131	281.1	284	277	269.3
600	31	4394	276.0	279	272	268.8	30	4403	276.8	282	273	263.8	31	4389	274.6	280	269	256.6
500	30	5852	267.8	273	264	..	29	5861	268.2	273	263	..	31	5836	266.7	270	260	..
400	30	7573	258.2	264	251	..	30	7582	258.0	263	253	..	31	7545	255.6	260	247	..
300	29	9691	243.7	252	237	..	29	9700	243.2	250	239	..	31	9640	241.3	248	234	..
250	27	10970	234.3	245	224	..	22	10972	234.4	240	229	..	31	10907	232.8	241	226	..
200	24	12464	222.6	230	211	..	14	12464	223.0	230	215	..	31	12397	222.7	230	217	..
175	18	13278	214.4	224	206	..	13	13320	216.5	225	207	..	30	13263	217.2	224	211	..
150	15	14232	208.3	218	202	..	13	14231	208.5	220	197	..	27	14236	210.9	218	203	..
125	14	15335	202.4	215	193	..	13	15384	204.8	216	195	..	25	15336	204.3	211	197	..
100	12	16667	201.1	207	196	..	10	16736	202.8	211	197	..	19	16655	200.0	206	194	..
80	6	18038	208.0	215	201	..	6	18153	207.0	212	202	..	13	17944	202.0	209	196	..

Standard Pressure Surface mbs.	PORT BLAIR (1001 mb.)						TRIVANDRUM (1001 mb.)						VERAVAL (1007 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	079	297.6	299	296	296.5	31	064	298.1	299	297	295.6	28	008	297.6	301	294	295.3
1000	30	086	..	..	..	..	31	074	..	..	..	..	28	067	..	..	..	..
900	30	1008	293.6	296	291	291.3	31	995	293.1	296	285	288.7	28	989	294.3	299	291	287.6
850	30	1501	291.1	294	289	288.6	31	1487	290.5	293	283	285.9	28	1483	291.4	296	286	285.1
800	30	2018	288.3	291	285	285.5	31	2004	287.8	291	281	283.1	28	2000	288.2	292	281	282.0
700	30	3140	282.7	287	279	279.5	31	3126	282.6	286	277	275.9	28	3122	282.7	286	277	274.4
600	30	4405	275.8	279	271	273.2	31	4390	275.6	281	271	269.3	28	4386	275.3	280	269	264.9
500	30	5859	267.9	272	265	..	31	5843	267.3	271	265	..	28	5839	267.7	272	262	..
400	30	7579	257.1	261	251	..	31	7559	257.1	261	253	..	27	7557	257.3	266	251	..
300	24	9697	244.1	249	237	..	30	9662	241.8	247	234	..	17	9660	242.8	248	239	..
250	21	10983	234.3	239	227	..	30	10924	231.6	238	224	..	13	10944	233.7	240	229	..
200	16	12456	221.2	229	213	..	30	12399	219.9	228	210	..	11	12432	222.8	228	217	..
175	14	13324	214.2	224	208	..	23	13255	214.6	220	207	..	8	13275	215.0	223	208	..
150	10	14259	206.7	219	203	..	21	14224	208.2	213	199	..	8	14237	209.3	217	198	..
125	8	15413	202.6	212	195	..	18	15319	204.0	208	198	..	..	..	..	..	..	..
100	6	16677	201.8	212	187	..	17	16656	202.7	211	195	..	..	..	..	..	..	..
80	..	..	..	..	..	..	11	18013	204.9	215	197	..	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1002 mb.)					
	No. of Obs.	Ht. gpm.	Temperature A			
			Mean	Max.	Min.	Dew point
Surface	31	048	298.7	302	296	296.4
1000	31	068	..	..	..	..
900	31	995	295.0	298	291	290.5
850	31	1491	292.5	295	290	287.5
800	31	2012	289.5	292	285	284.3
700	31	3139	284.0	291	280	277.5
600	31	4411	277.4	281	274	269.4
500	30	5874	269.2	273	263	..
400	30	7602	258.6	263	254	..
300	22	9729	244.1	250	237	..
250	21	11015	234.2	241	226	..
200	19	12494	221.8	232	212	..
175	16	13355	216.5	225	207	..
150	15	14331	209.7	217	201	..
125	13	15456	205.8	211	194	..
100	11	16789	200.9	208	193	..
80	5	18190	205.2	215	198	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1005 mb.)						NAGPUR (972 mb.)						NEW DELHI (983 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point
Surface	31	015	302.5	305	298	297.2	31	311	302.5	306	293	292.7	31	210	302.9	307	295	291.8
1000	31	055	..	..	..	..	31	054	..	..	..	..	31	061	..	..	..	..
900	31	985	295.6	299	291	290.3	31	989	297.9	300	295	287.4	31	996	298.5	302	293	286.6
850	31	1482	292.5	295	289	287.3	31	1487	294.0	297	291	285.5	31	1495	294.5	298	288	283.5
800	31	2002	289.3	291	287	284.8	31	2000	289.9	293	286	280.9	31	2018	290.6	294	284	279.9
700	31	3127	283.2	286	279	278.0	31	3134	283.2	287	278	272.3	31	3144	283.0	286	277	269.6
600	31	4395	276.8	280	272	268.0	31	4402	276.9	280	274	255.7	31	4409	275.7	281	269	262.3
500	31	5856	268.6	272	265	..	30	5862	268.7	273	266	..	31	5863	267.8	272	261	..
400	31	7580	257.8	263	253	..	29	7583	257.5	262	246	..	31	7580	256.7	263	249	..
300	29	9696	242.1	247	237	..	27	9696	243.5	251	236	..	29	9684	242.7	249	234	..
250	25	10977	233.1	238	226	..	24	10964	233.3	241	224	..	29	10957	234.0	239	225	..
200	22	12466	221.1	227	215	..	20	12435	221.2	229	214	..	28	12459	224.2	228	215	..
175	22	13313	214.9	223	207	..	17	13299	216.0	224	205	..	27	13331	218.9	223	208	..
150	20	14290	209.1	217	200	..	16	14277	211.2	220	204	..	26	14303	212.8	218	201	..
125	16	15393	202.5	208	193	..	15	15393	205.7	215	196	..	21	15433	207.3	215	197	..
100	12	16728	200.9	205	196	..	10	16690	201.9	203	195	..	19	16763	201.5	207	195	..
80	7	18026	204.7	211	197	..	7	18054	203.7	215	197	..	17	18085	203.6	210	198	..

Standard Pressure Surface mbs.	PORT BLAIR (999 mb.)						TRIVANDRUM (1000 mb.)						VERAVAL (1006 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A				No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point			Mean	Max.	Min.	Dew Point
Surface	31	079	299.4	301	297	296.8	31	064	301.1	302	299	296.1	29	008	301.8	307	298	296.9
1000	31	071	..	..	..	..	31	064	..	..	..	..	29	063	..	..	..	..
900	30	998	293.8	297	290	291.9	31	989	294.3	296	292	289.4	29	990	295.6	299	291	287.3
850	30	1491	290.9	294	287	288.9	31	1484	291.5	294	289	286.6	29	1485	292.5	296	289	283.6
800	30	2008	288.3	292	285	286.2	31	2002	289.0	290	287	283.7	29	2005	289.5	294	286	278.6
700	30	3131	282.5	285	279	280.2	31	3128	283.7	286	281	278.1	27	3132	283.4	289	278	268.3
600	30	4395	275.7	280	271	273.8	31	4399	277.3	281	272	270.3	26	4398	277.3	282	274	256.7
500	29	5851	267.0	275	262	..	31	5861	269.3	276	263	..	25	5858	268.7	277	263	..
400	28	7572	257.3	268	254	..	30	7589	258.5	268	250	..	25	7580	257.8	264	250	..
300	19	9677	242.0	248	234	..	30	9707	242.9	251	232	..	19	9716	245.6	252	238	..
250	14	10945	232.1	239	227	..	29	10979	233.1	240	220	..	17	11005	235.7	246	229	..
200	10	12410	221.2	230	213	..	28	12467	221.4	229	207	..	12	12499	222.6	234	216	..
175	9	13393	214.0	223	208	..	28	13313	215.2	224	203	..	10	13335	216.0	220	210	..
150	6	14253	209.2	215	204	..	24	14255	208.3	218	197	..	8	14284	209.5	216	204	..
125							23	15355	204.1	212	195	..	5	15406	203.6	205	201	..
100							17	16736	202.8	209	197	..						
80							13	18156	207.3	213	198	..						

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

October 1959 (Asvina 9—Kartika 9, 1881 Saka)

Standard Pressure Surface mb.	VISAKHAPATNAM Surf. Pr. (1001 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	301.1	304	298	297.3
1000	31	059	..	..	..	..
900	31	988	295.2	299	293	291.2
850	31	1485	292.6	297	289	287.7
800	31	2005	289.3	293	287	284.2
700	31	3131	283.2	287	279	277.6
600	31	4402	277.3	280	273	268.7
500	31	5866	268.9	273	263	..
400	31	7593	258.3	264	249	..
300	24	9716	243.9	251	238	..
250	19	11003	236.2	244	230	..
200	16	12508	224.4	234	216	..
175	14	13361	217.4	225	211	..
150	14	14331	210.2	217	205	..
125	10	15407	204.5	207	199	..
100						
80						

NOTE.—Number of observations refer to those of dynamic height.

Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

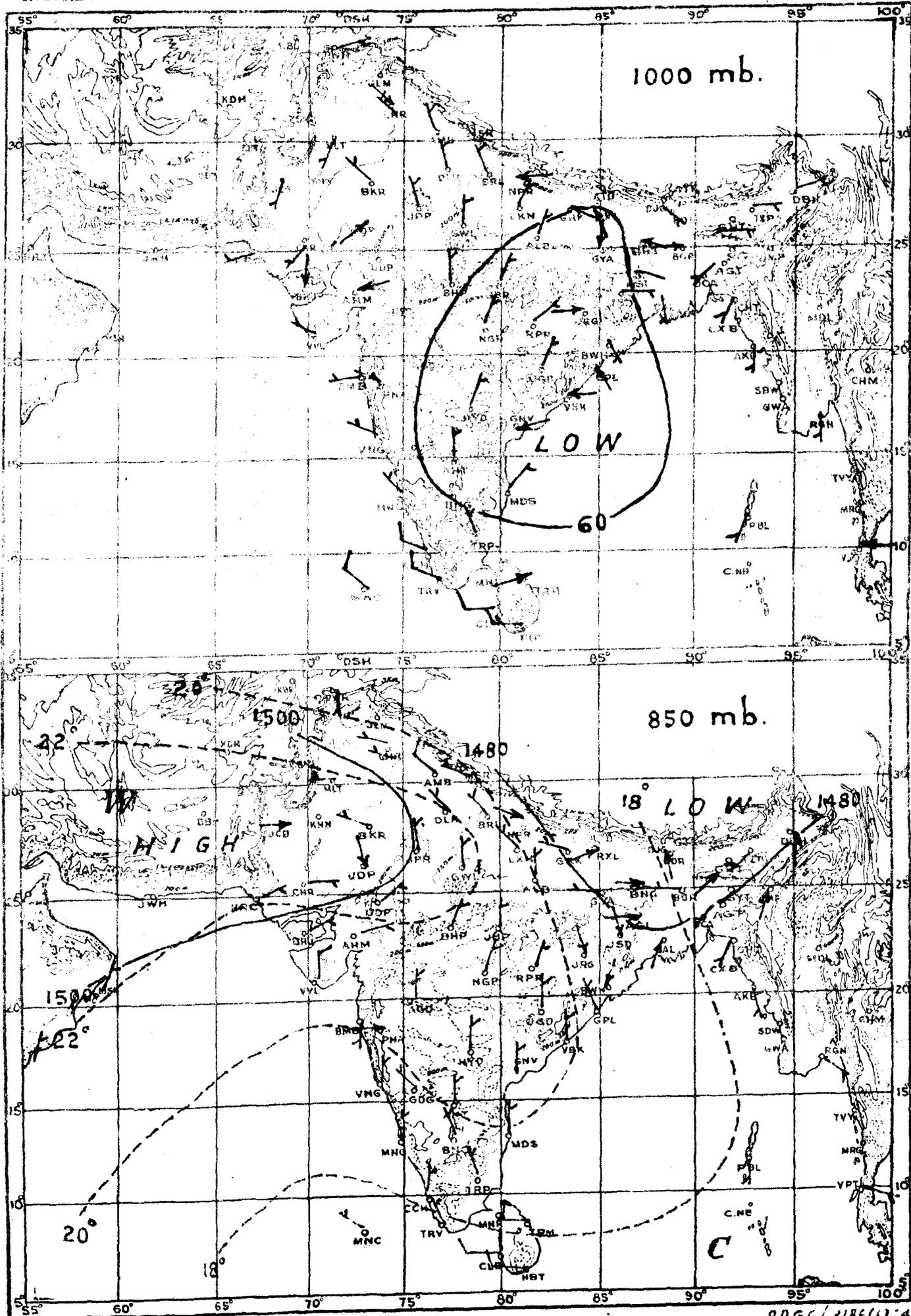
Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

OCTOBER 1959

Plate I

I.Met.D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

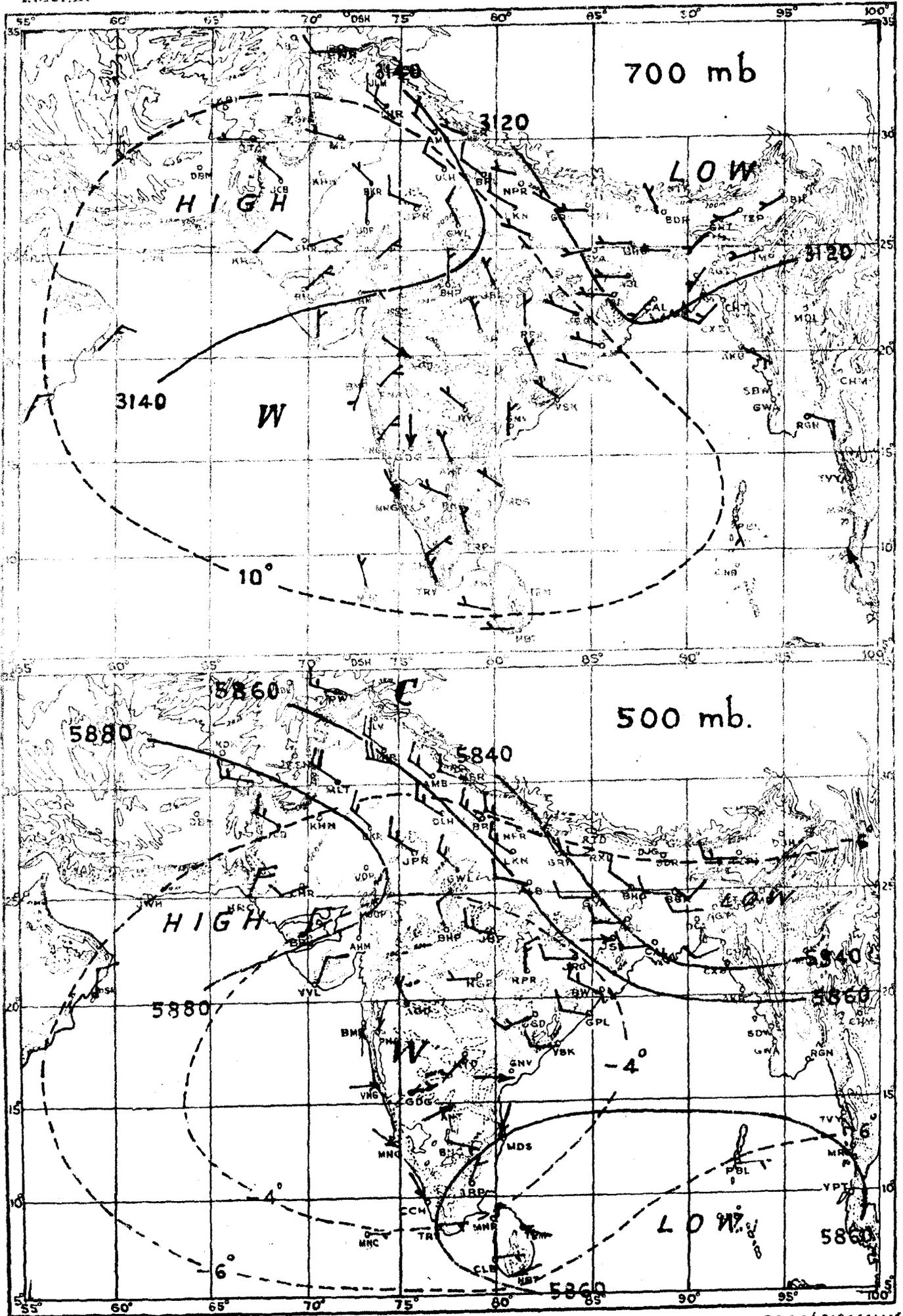
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

OCTOBER 1959.

Plate II

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

DDGC/2185123:3764

G.P.Z. P. POONA, 1965

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

November

Published by authority of the Government of India

ATMOSPHERIC SCIENCES

LIBRARY

MAR 1 1967

E. S. S. A.

U. S. Dept. of Commerce

Chief features—

- (1) A prolonged spell of wet weather in the west Peninsula during the first half of the month.
- (2) Movement of an active western disturbance through northwest India between 5th and 9th and
- (3) The formation of a Bay depression towards the end of the month.

A trough of low pressure persisted in the southeast and the east central Arabian Sea practically throughout the first half of the month. In association with it, relatively moist southerlies and southeasterlies prevailed over the west Peninsula in the lower troposphere during that period. Fairly widespread or local thundershowers occurred in Maharashtra on 3rd, 11th and 13th, in coastal Mysore on 2nd, 7th, 8th and 15th, in south Interior Mysore between 7th and 9th and in Kerala practically on all days between 4th and 14th.

In association with an easterly wave, a well marked low pressure area formed over the extreme south Peninsula and Ceylon-Comorin areas on 5th. It moved slowly westwards, accentuated the trough in the southeast and east Central Arabian Sea between 8th and 9th and gradually moved away westwards. In association with it, fairly widespread thundershowers with a few heavy to very heavy falls of rain occurred in the Madras State between 5th and 7th. Nagapattinam reported 10 cm and Tuticorin 9 cm on 5th, Madras 7 cm on 6th and Cuddalore 7 cm on 6th and 11 cm on 7th.

Another easterly wave moved through Ceylon-Comorin areas between 21st and 25th. In association with it, a few heavy showers occurred in coastal Madras on 21st and 25th. Pamban reported 8 cm of rain on 21st and Nagapattinam 10 cm on 25th. Another easterly wave moved into the southeast Bay of Bengal on 26th November. Progressing westwards, it developed into a depression on 28th morning with its centre about 300 kms eastsoutheast of Nagapattinam. It moved westwards and crossed coast between Nagapattinam and Pamban the same night. The next day, it emerged into the Arabian Sea and was centred about 125 kms west of Cochin. Continuing to move in a Westerly direction, it was centred near Lat. 9.5°N and Long. 71.0°E on 30th morning. In association with this depression, fairly widespread rain occurred in the Bay Islands on 26th and 27th, in the Madras State between 28th and 30th and in Kerala on 30th. Some noteworthy amounts of rainfall were : Long Island, Mayabandar and Port Blair 11 cm each on 26th, Long Island 11 cm and Mayabandar 10 cm on 27th and Madras 15 cm, Vellore 14 cm and Madurai and Kodaikanal 11 cm each on 29th. Kallakurichi (Madras State) reported an exceptionally heavy fall of 27 cm on 29th. According to press reports, the heavy to very heavy rain in the Madras State was responsible for flooding and consequent dislocation of train service on the Southern Railway track between Tiruchirapalli and Villupuram (South Arcot district).

During the month, four western disturbances moved across the north of the country. The first moved across Jammu and Kashmir between 2nd and 4th and caused local rain or snow in Jammu and Kashmir and scattered rain in the Punjab (I), Rajasthan, Gujarat and west Madhya Pradesh on 3rd and 4th. The second was an active western disturbance. It was located over Afghanistan on 5th. Moving in an eastnortheasterly direction, it lay over northern divisions of West Pakistan and the adjoining areas of the Punjab (I), with an active trough extending upto Sind on 6th. The disturbance moved away eastnortheastwards across Jammu and Kashmir and the Punjab-Kumaon hills by 9th. This disturbance caused fairly widespread rain in the Punjab (I) on 6th and 7th and in Himachal Pradesh, Jammu and Kashmir and west Uttar Pradesh on 7th. Hissar reported 5 cm of rain on 6th, Gulmarg and Dharamsala 5 cm each on 7th and Dalhousie 9 cm on 7th and 5 cm on 8th. According to press reports, a severe rain-storm burst over Bareilly on 6th evening and temporarily

"Copyright © 1959 by the Manager of Publication, Govt. of India, Delhi-8."

paralysed life in the town and its neighbourhood. The third western disturbance, while moving across the extreme north of the country, gave only scattered rain or snow in Jammu and Kashmir on 17th. The fourth western disturbance was feeble and moved away through the Punjabs on 23rd without giving any precipitation.

Night temperatures were generally below normal in West Bengal, Orissa, Bihar, coastal Andhra Pradesh and Telangana between 19th and 25th, being appreciably so in and near Orissa on 22nd and 23rd. They were otherwise normal or above normal over most of the country during the month, being appreciably above normal in the belt extending from north Mysore and Telangana to south Rajasthan between 2nd and 4th, in Uttar Pradesh, Madhya Pradesh and Vidarbha between 5th and 8th and in Maharashtra and Vidarbha between 9th and 14th.

The rainfall for the month was in large excess in west Uttar Pradesh, the Punjab (I), Jammu and Kashmir, west Rajasthan, Saurashtra and Kutch and Maharashtra (including Marathwada) and normal in east Rajasthan and the Madras State. It was in slight defect in the Bay Islands, in moderate defect in Assam, Gujarat, Telangana, south Interior Mysore, Kerala and the Arabian Sea Islands and in large defect in Orissa, Bihar Plateau, east Uttar Pradesh, west Madhya Pradesh, the Konkan, Vidarbha, coastal Andhra Pradesh, Rayalaseema and coastal and north Interior Mysore. There was no rain over the rest of the country outside Himachal Pradesh.

The mean maximum temperature was above normal in the Bay Islands and the Arabian Sea Islands, below normal in Jammu and Kashmir and Saurashtra and Kutch and normal over the rest of the country outside Himachal Pradesh. The mean minimum temperature was above normal in the Bay Islands, Uttar Pradesh, the Punjab (I), Jammu and Kashmir, west Rajasthan, Gujarat, Maharashtra (including Marathwada) and south Interior Mysore and normal over the rest of the country outside Himachal Pradesh.

The mean relative humidity in the morning was above normal in west Uttar Pradesh, the Punjab (I), Rajasthan, Saurashtra and Kutch, Maharashtra (including Marathwada), Vidarbha and south Interior Mysore and normal over the rest of the country outside Himachal Pradesh.

The mean cloud amount in the morning was above normal in the Bay Islands, the Punjab (I), Jammu and Kashmir, west Madhya Pradesh, Gujarat, the Konkan, Maharashtra (including Marathwada), Vidarbha, the Madras State and the Mysore State, normal in west Uttar Pradesh, Rajasthan, Saurashtra and Kutch, Telangana, Rayalaseema, Kerala and the Arabian Sea Islands and below normal over the rest of the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying tables is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,

The 1st February 1960.

C. RAMASWAMY,

for Director General of Observatories.

Errata to M.W.R. November 1959 (Kartika 10 - Agrahayana 9, 1881 Saka)

Page No.	Station	Hour	Column	For	Read
<u>Table II</u>					
478	Tura		4	38.6	28.6
478	Luding		16	1.9	-1.9
478	Bankura		10	0	..
479	Umudibali		3	+0.4	-0.4
479	Titilagarh		1	Titagarh	Titilagarh
479	Sabour		9	1921	19,21
480	Lucknow (Amausi Aerodrome)		18	4.7	4.6
480	Jammu (Aerodrome)		11	47.2	47.7
480	(Foot note)		-	* Temporary closed	* Temporarily closed
481	Indore		19	..	-0.3
481	Jagdalspur (P.B.O)		23,24	7,0	0,7
482	Bhutakia Bhimsar		1	*Bhatinda	*Bhutakia Bhimsar
483	Nizamabad		20(a)	0	1
483	Pamban		16	0.0	0
484	Palghat		8	21.7	21.2
484	Dharampore		22	..	0
486	Angbung		8	7.9	7.9(b)
486	Taplejung		8	5.9	5.9(b)
486	(Foot note)		-	† Data not available	†† Data not available
<u>Table III</u>					
487	Long Island	0830	5	22	25
488	Nangiya	1730	13	0.6 (b)	0.6
488	Silchar	0830	6	..	-0.1
488	Silchar	1730	6	-0.1	..
488	Silchar (Kumbhigram Aerodrome)	0830	5	1003.0	1003.0
488	Naflong	0830	10	16.2	16.6
489	Dum Dum	0530	24	(Blank)	0
489	Sandheads	1150	23	2	1
493	Nissar	0830	14	(Not clear)	+0.6
494	Leh	0530	2	(R) 0530	0530
500	Gannavaram	0230	4	1011.2	1011.7
501	Arogyavaram	0830	7	21.3	21.2
502	Madras	2330	26	7	5
502	Madras (Nungambakkam)	0830	1	Madras (Nungambakkam)	Madras (Nungambakkam)
502	Bellary	1730	26	(Blank)	1
503	Alleppey	1730	7	22.6	28.6
503	Kohima	1730	13	9.4	2.4
504	Abu	0830	17	0	..
504	Abu	1730	17	0	..
504	Mahabaleshwar	1730	18	29(b)	29
504	Mahabaleshwar	1730	2	1730	† 1730
504	(Foot note)	-	-	(Not given)	* Wind direction for 30 days
505	Gorkha	0830	11	78(a)	78(b)
505	Jomosom	0830	9	3.6	-3.6
506	Dandeldhura	1730	10	8.8	9.8
506	Bagmati Catchment	-	1	(Not given)	Bagmati Catchment
506	Barakshetra	1130	8	16.8	19.8

Page No.	Station	Time in I.S.T	Height in Km.	Entry under column	Existing entry	Correct entry
509	Ahmedabad	1730	7.2, 9.0	n. V v D	Values printed	slightly up.
512	Bareilly	1730	3.6	n	19	29
513	Darjeeling	1730	4.5	v	17.6	7.6
514	Gadag	1730	7.2	n	5	9
517	Jaipur	2330	0.9	D	550	350
518	Madras	1730	0.6	v	7.6	7.5
518	Mohanbari	1730	3.0	D	192	199
519	Nagpur	1730	1.5	D	309	039
520	Port Blair	1130	1.5	v	5.3	5.6
521	Tiruchirapalli	1730	1.5	D	0 7	047
522	Veraval	0530	3.6	n	29	26
522	Visakhapatnam	2330	Surface	D	06	063
523	Santa Cruz	1730	Ht. in Km. Ht. in km.		12.5	12.0
524	Santa Cruz	1730	Ht. in Km. Ht. in km.		12.0	21.0
524	Udaipur	1730	-	Time of ascent	0530*	1730
524	Veraval	1130	12.0	v	18.9	19.0
524	Veraval	1730	--	Time of ascent	1730	1730.*
524	Visakhapatnam	1730	-	Time of ascent	1730hrs.*	1730 hrs.

RADIOSONDE DATA

527	New Delhi	00 GMT	175 mb. Min.	239	209
528	Visakhapatnam	09 GMT	500 mb. Mean	256.4	267.4

SG.26-2

TABLE I—DIVISIONAL AND SUB-DIVISIONAL MEANS—NOVEMBER 1959 (KARTIKA 10—AGRAHAYANA 9, 1881 SAKA)

1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud		1	2	Percentage of normal	Mean maximum temperature °C	Mean minimum temperature °C	Relative humidity %		Cloud	
					0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.						0830 hrs. I.S.T.	1730 hrs. I.S.T.	0830 hrs. I.S.T.	1730 hrs. I.S.T.
Division									Division—contd.								
1. Assam (Including Manipur, Tripura)	16.6 -9.9	63	27.2 +0.3	16.5 +0.1	83 -1	78	2.2 -0.7	1.3	8. Rajasthan	7.1 +2.9	169	29.5 -0.6	13.3 +0.8	60 +10	36	0.9 +0.1	1.4
2. West Bengal	0 -18.6	0	28.1 -0.4	17.4 +0.3	71 -1	63	0.7 -1.0	0.6	9. Madhya Pradesh	3.1 -12.3	20	28.8 +0.4	13.4 +0.6	62 +1	44	1.4 -0.1	1.7
3. Orissa	2.7 -47.4	5	29.1 0	17.5 -0.8	74 +1	58	1.1 -1.3	2.1	10. Bombay	20.9 -3.2	83	31.2 0	18.3 +1.0	67 +5	50	2.3 +0.5	2.4
4. Bihar	0.1 -11.0	1	27.9 +0.3	14.3 -0.2	67 -3	60	0.4 -1.0	0.6	11. Andhra Pradesh	18.7 -72.4	21	30.3 +0.4	19.8 +0.1	70 -2	57	2.9 -0.6	3.4
5. Uttar Pradesh	9.1 +3.6	165	28.2 +0.1	13.3 +1.3	70 +4	53	0.6 -0.2	1.0	12. Madras State	254.7 +17.8	108	29.5 -0.2	22.3 +0.4	82 0	73	5.5 +0.9	5.8
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	21.8 +19.3	872	27.5 -0.7	12.5 +2.1	75 +17	56	1.2 +0.4	1.5	13. Mysore	24.5 -27.3	47	29.4 +0.3	19.3 +1.0	74 +4	53	4.5 +1.2	4.9
7. Jammu and Kashmir.	61.4 +53.2	749	10.3 -2.3	-1.7 +1.8	65 -5	51	4.5 +2.1	4.1	14. Kerala	105.3 -56.6	65	30.7 +0.5	23.9 +0.4	82 0	76	4.8 +0.4	6.1
Sub-Division									Sub-Division—contd.								
1. Bay Islands	220.4 -46.8	82	30.6 +1.8	24.3 +1.2	77 +1	83	6.1 +1.5	5.0	16. Madhya Pradesh (East).	0 -15.2	0	28.4 +0.8	13.5 +0.2	67 -1	49	1.1 -0.8	1.8
2. Assam (Including Manipur, Tripura)	16.6 -9.9	63	27.2 +0.3	16.5 +0.1	83 -1	78	2.2 -0.7	1.3	17. Gujarat	6.5 -5.7	53	32.5 -0.3	17.4 +1.6	65 +5	41	1.5 +0.3	1.5
3. Sub-Himalayan West Bengal.	0 -11.8	0	26.9 -0.9	16.5 +0.5	74 -2	60	0.7 -0.3	0.7	18. Saurashtra and Kutch.	10.2 +6.1	249	31.1 -1.1	17.2 +0.1	65 +9	48	1.3 +0.1	1.1
4. Gangetic West Bengal.	0 -21.2	0	28.5 -0.2	17.7 +0.2	70 -1	64	0.7 -1.2	0.6	19. Konkan	10.3 -31.9	24	32.0 +0.5	22.5 +1.0	70 +2	69	3.0 +0.7	2.9
5. Orissa	2.7 -47.4	5	29.1 0	17.5 -0.8	74 +1	58	1.1 -1.3	2.1	20. Maharashtra (Including Marathwada).	46.5 +17.7	161	30.4 +0.2	17.0 +1.3	67 +6	46	3.0 +0.9	3.6
6. Bihar Plateau	0.3 -13.8	2	27.7 +0.3	13.8 -0.5	64 -3	57	0.5 -1.2	0.8	21. Vidarbha	3.1 -14.8	17	30.3 +0.1	16.1 +1.0	64 +6	45	2.4 +0.5	2.6
7. Bihar Plains	0 -9.2	0	28.1 +0.2	14.7 +0.2	70 -3	63	0.3 -0.8	0.4	22. Coastal Andhra Pradesh.	21.4 -118.5	15	30.0 +0.3	21.1 -0.4	73 -2	66	3.0 -0.9	3.4
8. Uttar Pradesh (East).	0.5 -5.8	8	28.8 +0.4	13.8 +1.2	68 0	52	0.3 -0.5	0.6	23. Telangana	14.5 -10.3	58	29.9 +0.5	17.2 +0.7	66 -2	46	2.3 -0.5	2.6
9. Uttar Pradesh (West).	18.9 +14.1	394	27.5 -0.3	12.8 +1.4	71 +7	54	0.8 +0.1	1.4	24. Rayalaseema	17.5 -42.5	29	31.5 +0.5	20.6 +0.7	69 -4	54	3.3 -0.1	4.1
10. Punjab (India) (Including Delhi).	21.8 +19.3	872	27.5 -0.7	12.5 +2.1	75 +17	56	1.2 +0.4	1.5	25. Madras State	254.7 +17.8	108	29.5 -0.2	22.3 +0.4	82 0	73	5.5 +0.9	5.8
11. Himachal Pradesh	14.6 ..	..	24.3 ..	8.5 ..	95 ..	60	5.5 ..	2.2	26. Coastal Mysore	25.2 -35.7	41	32.5 +0.7	23.3 +0.8	73 0	65	4.8 +1.1	5.1
12. Jammu and Kashmir.	61.4 +53.2	749	10.3 -2.3	-1.7 +1.8	65 -5	51	4.5 +2.1	4.1	27. Interior Mysore (North).	11.9 -20.8	36	30.1 +0.5	18.5 +1.0	67 +4	45	4.1 +1.5	5.0
13. Rajasthan (West)	6.6 +5.5	600	30.2 -0.5	13.9 +1.7	57 +9	33	1.0 +0.1	1.4	28. Interior Mysore (South).	36.6 -29.5	55	27.6 +0.1	18.5 +1.1	82 +6	57	4.9 +0.8	4.7
14. Rajasthan (East)	7.5 +0.4	106	28.9 -0.6	12.8 +0.1	62 +10	38	0.9 +0.1	1.4	29. Kerala	105.3 -56.6	65	30.7 +0.5	23.9 +0.4	82 0	76	4.8 +0.4	6.1
15. Madhya Pradesh (West).	5.3 -10.3	34	29.0 +0.1	13.4 +0.8	59 +3	41	1.6 +0.4	1.7	30. Arabian Sea Islands.	73.2 -34.7	68	31.3 +1.3	24.2 +0.3	81 +5	77	4.7 +0.7	5.6

Note—The entries in the second line for each division and sub-division indicate departures from normal.

*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—NOVEMBER, 1959 (KARTIKA 10—AGRAHAYANA 9, 1881 SAKA) 4 85

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2·5 mm. or more)		Wind speed, km. per hour		Weather phenomena—No. of days with														
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm. and more)	Snow or sleet	Hail	Thunder heard	Fog	Dust storm	Ground frost	Gale	Squall	Line squall			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20a	20b	21	22	23	24	25	26	27	28	29			
Ceylon—contd.																																
Trincomalee	28·0	-1·5	32·8	1	23·3	-0·4	22·6	8	160·9	520·8	+173·8	109·5	23	18	+4·1	..	..	..	0	21	0	0	3	0	0	0	0	0	0	0	0	
Batticaloa	28·8	..	31·1	2	24·0	..	23·1	5,30	86·1	342·9	..	58·7	27	20	..	..	..	..	0	24	0	0	5	0	0	0	0	0	0	0	0	
Hambantota	29·4	-0·3	31·1	2	23·6	+0·3	22·6	5	17·4	154·0	-24·1	77·2	5	10	0	..	..	..	0	15	0	0	5	0	0	0	0	0	0	0	0	
Mannar	28·9	..	31·0	14	25·0	..	23·6	12	120·3	184·6	..	52·1	25	15	..	..	..	..	0	19	0	0	5	0	0	0	0	0	0	0	0	
Hydrometeorological Observatories.																																
Damodar Catchment.																																
Bokaro	27·7	..	30·6	9	11·4	..	7·2	21,22	0	0	..	0	..	0	..	5·9	3·6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hazaribagh	24·4	..	26·9	7,9	11·7	..	8·2	22	0	0	..	0	..	0	..	7·1	3·9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tilaiya	26·2	..	28·7	5,6	14·5	..	10·3	24	0	0	..	0	..	0	..	5·9	5·2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramgarh	27·9	..	31·7	9	12·4	..	7·7	23	0	0	..	0	..	0	..	3·1	1·7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Panchet Hills	28·9	..	32·2	9	16·8	..	13·1	23	0	0	..	0	..	0	..	6·2	4·6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Durgapur	28·5	..	31·1	1,8,9	16·1	..	12·8	20	..	0	..	0	..	0	..	7·2	5·6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahanadi Catchment.																																
Hirakud	29·3	..	32·3	9	17·1	..	12·9	22	0	0	..	0	..	0	..	4·6	3·3	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Khijrawan	27·6	..	30·4	9	14·2	..	8·5	22	0	0	..	0	..	0	..	5·6	2·8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sonepur	29·3	..	33·3	10	11·6	..	7·7	22	..	0	..	0	..	0	..	..	2·1	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Ginabahr	28·9	..	32·4	9	12·5	..	8·2	23,29	..	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Bhimkund	28·0	..	31·2	10	14·4	..	9·3	22	0	10·5	..	5·3	10	2	..	2·2	1·0	..	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Narbada Catchment.																																
Punasa	30·0	..	34·2	7	14·9	..	6·2	16	0	0	..	0	..	0	..	6·0	3·5	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bagra Tawa	29·4	..	32·9	6	13·3	..	8·8	22	0	0	..	0	..	0	..	4·2	2·2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thikri	31·8	..	34·9	6	15·4	..	10·1	25	0	5·2	..	3·5	4	1	..	..	..	..	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Sabarmati Catchment																																
Jhadol	28·0	..	29·7	4 days	8·4	..	4·7	25	..	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi	31·2	..	33·1	5	15·8	..	11·4	22,24	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																																
Mukhim	16·9	..	19·9	5	7·5	..	5·6	23	24·5	34·5	..	33·5	7	1	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..
Tehri	24·9	..	28·3	5	10·0	..	7·2	21	12·2	27·0	..	25·2	7	1	..	2·4	1·3	..	0	2	0	0	2	4	0	0	0	0	0	0	0	0
Gandak Catchment																																
Gorkha	..	..	..	..	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	22·7	..	24·7	6	12·6	..	9·2	28	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	23·4	..	25·5	8	13·2	..	10·7	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	..	..	..	..	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Timure	19·8	..	21·8	9	5·9	..	3·3	19,20,25	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region).																																
Dailkh	19·0	..	22·3	6	9·9	..	7·2	20	0	16·0	..	16·0	7	1	..	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																																
Dandeldhura	16·6	..	19·9	5,7	8·3	..	6·1	19	0	18·9	..	18·9	7	1	..	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	27·2	..	29·4	9	16·8	..	11·8	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment.																																
Katmandu†	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

†Included under "Hill stations"

486 TABLE II-SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER-NOVEMBER, 1959(KARTIKA 10—AGRAHAYANA 9, 1881 SAKA)

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, kms. per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation(0.1 and 0.2 mm.)	Precipitation(0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20a	20b	21	22	23	24	25	26	27	28	29		
Hydrometeorological Observatories—Contd.																															
Kosi Catchment																															
Chautara . . .	21.8	..	21.6	8	10.9	..	8.6	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga††	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barakhshetra . . .	26.5	..	28.1	6	15.2	..	12.3	29	0	0	..	0	..	0	..	5.6	4.3	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Angbung . . .	22.5	..	24.3	6,7	11.4	..	7.9	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	18.4	..	21.5	6	9.2	..	5.9	30	0	0	..	0	..	0	..	..	..	..	0	0	0	0	1	1	0	0	0	0	0	0	0
Bhojpur . . .	19.0	..	21.4	7	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	10.3	..	13.4	7	-0.4	..	-2.9	20	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..
Taplethok . . .	23.0	..	25.9	13	11.7	..	8.2	29,30	0	3.4	..	3.4	2	1	..	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	22.6	..	26.8	6	13.5	..	10.8	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																															
Gangtok . . .	17.1	..	21.2	1	8.7	..	5.9	30	3.4	37.1	..	11.9	2	7	..	4.2	3.0	..	2	11	0	0	0	8	0	0	0	0	0	0	0
Geyzing . . .	21.2	..	24.4	6	10.1	..	6.3	31	0	34.4	..	18.2	1	3	..	..	..	..	0	4	..	..	..	..	..	..	..	..	..	..	..

†Data not available

(b) Mean of 29 days.

Table with columns for Division and station, Hour of observation, Height of barometer, Mean pressure, Meantemperature, Cloud amount, Wind speed, and No. of observations. Includes rows for Orissa, Bihar Plateau, and Bihar Plains.

Division and station	Hour of observation I.S.T.	Height of barometer station above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, in km. per hour	Wind speed (km.p.h.)			No. of observations											
			At mean sea level of height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable		
																												Wind direction	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Hydrometeorological Observatories—contd.																													
Gogra Catchment																													
Dandeldhura	0830	..	..	..	..	11.7	9.1	6.9	9.8	71	..	1.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.5	8.9	6.8	8.8	72	..	1.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	22.1	18.1	15.2	17.3	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	23.1	19.7	17.5	20.3	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Katmandu*	0830	1324																											
	1130	"																											
	1730	"																											
Kosi Catchment																													
Chautara	0830	..	..	..	..	14.0	12.1	10.7	12.9	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.4	12.4	9.6	11.9	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga†	0830																												
	1130																												
	1730																												
Barakhshetra	0830	146	1016.2	999.2	..	17.8	16.3	15.2	17.4	85	..	1.1	..	7.5	0	0	30	1	2	6	13	2	8	2	6	0	0	0	
	1130	"	1014.3	997.6	..	24.3	16.8	17.2	19.5	65	..	1.9	..	7.5	0	0	28	0	0	0	3	0	17	6	2	2	0	0	
	1730	"	1012.7	995.8	..	19.9	18.4	17.1	20.0	86	..	2.0	..	5.1	0	0	29	0	2	14	10	1	2	0	0	1	0	0	
Angbung	0830	..	..	..	..	15.7	13.6	12.1	14.1	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	19.3	14.1	9.9	12.2	55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung	0830	..	..	..	..	13.1	11.1	9.6	11.9	79	..	4.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	16.6	12.9	10.1	12.3	66	..	3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.6	10.4	7.9	8.4	69	..	4.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhojpur	0830	..	..	..	..	14.4	12.1	10.3	12.6	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	12.8	11.5	10.8	12.8	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	0830	..	..	..	..	7.0	3.8	0.3	6.3	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	4.3	3.1	1.9	6.9	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok	0830	..	..	..	..	15.5	13.0	11.1	13.2	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.3	13.2	10.8	12.9	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur	0830	..	..	..	..	16.0	13.7	12.0	14.1	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.4	14.5	12.2	14.3	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																													
Gangtok	0830	1812	1527.6	822.0	..	11.5	9.6	7.8	10.7	80	..	3.6	..	2.3	0	0	15	3	9	0	0	3	0	0	0	15	0	0	
	1130	"	1514.5	821.0	..	14.4	11.9	10.1	12.4	76	..	3.9	..	3.9	0	0	26	0	1	0	7	3	11	3	1	4	0	0	
	1730	"	1502.6	819.7	..	11.9	10.8	10.0	12.3	88	..	5.5	..	1.6	0	0	14	0	0	1	4	5	4	0	0	16	0	0	
Gyzyng	0830	..	..	..	..	15.1	12.6	10.7	13.0	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.5	12.1	11.3	13.3	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Data included under "Hill stations".

†Data not available.

MONTHLY MEANS OF UPPER WINDS

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the table overleaf. All radiowind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9.0 km. a.m.s.l. are given under Table IV and data above 9.0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations;

V—represents the mean wind speed in metres per second* irrespective of direction;

v—represents the resultant mean velocity in metres per second*;

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0.15 km.a.g., 0.3, 0.6, 0.9, 1.5, 2.1, 3.0, 3.6, 4.5, 5.4, 6.0, 7.2, 9.0, 10.5, 12.0, 14.1, 16.2, 18.0, 21.0, 24.0, 27.0, 30.0, 33.0 and 36.0 km. a.m.s.l. Of these, the levels 1.5, 3.0, 5.4, 7.2, 9.0, 12.0, 14.1 and 16.2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

No.	Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flight (IST)		
1.	Agartala	23°53'	91°15'	17	28th Nov. 1951	0530	1730	2330
2.	Ahmedabad	23°04'	72°38'	61	19th May 1928	0530	1730	2330
3.	Amausi	26°45'	80°53'	132	20th Nov. 1950	0530	1730	2330
4.	Ambala	30°23'	76°46'	279	1st Apr. 1941	0530	1730	2330
5.	Amritsar	31°38'	74°52'	243	21st Jun. 1957	0530*	1730*	
6.	Anantapur	14°41'	77°37'	364	12th Feb. 1946	0530	1730	2330
7.	Asansol	23°41'	86°59'	135	29th May 1942	0530	1730	2330
8.	Baghdogra	26°38'	88°19'	140	7th Jun. 1953	0530	1730	2330
9.	Bairagarh	23°17'	77°21'	532	26th Feb. 1943	0530	1730	2330
10.	Bajpe	12°55'	74°53'	104	25th May 1959	0530	1730	2330
11.	Bamrauli	25°27'	81°44'	103	28th Feb. 1930	0530*	1130	1730* 2330
12.	Bangalore	12°58'	77°35'	936	19th May 1915	0530	1730	2330
13.	Bareilly	28°22'	79°24'	180	12th Jan. 1943	0530	1730	
14.	Begumpet	17°27'	78°28'	543	1st Sep. 1929	0530	1730	2330
15.	Bhagalpur	25°14'	86°57'	61	19th May 1950	0530	1730	
16.	Bhubaneswar	20°15'	85°50'	54	5th Dec. 1942	0530	1730	2330
17.	Bhuj	23°15'	69°48'	90	14th Sep. 1937	0530	1730	2330
18.	Bikaner	28°00'	73°18'	229	18th Oct. 1946	0530	1730	2330
19.	Chikalthana	19°51'	75°24'	583	7th Oct. 1951	0530	1730	2330
20.	Cochin	09°56'	76°14'	13	16th Mar. 1942	0530	1730	2330
21.	Darjeeling	27°03'	88°16'	2115	21st May 1956	0830	1730	
22.	Dehra Dun	30°19'	78°03'	692	1st Oct. 1958	0530	1730	
23.	Dum Dum	22°39'	88°27'	13	14th May 1921	0530*	1130	1730* 2330
24.	Gadag	15°25'	75°38'	650	3rd May 1943	0530	1730	2330
25.	Gannavaram	16°32'	80°48'	34	8th Apr. 1942	0530	1730	2330
26.	Gauhati	26°05'	91°43'	51	12th Mar. 1955	0530*	1130	1730* 2330
27.	Gaya	24°45'	84°57'	119	19th Mar. 1937	0530	1730	2330
28.	Gopalpur	19°16'	84°53'	24	15th Feb. 1946	0530	1730	2330
29.	Gorakhpur	26°45'	83°22'	83	5th Jan. 1943	0530	1730	
30.	Gwalior	26°14'	78°15'	208	7th May 1938	0530	1730	2330
31.	Imphal	24°51'	93°58'	805	8th Mar. 1952	0530	1730	2330
32.	Jabalpur	23°10'	79°57'	402	30th Jul. 1928	0530	1730	2330
33.	Jagdalpur	19°05'	82°02'	562	25th Mar. 1948	0530	1730	2330
34.	Jaipur	26°49'	75°48'	404	6th Jun. 1953	0530	1730	2330
35.	Jamshedpur	22°49'	86°11'	147	23rd Jul. 1942	0530	1730	
36.	Jharsuguda	21°55'	84°05'	240	1st May 1944	0530	1730	2330
37.	Jodhpur	26°18'	73°01'	229	15th Oct. 1934	0530*	1130	1730* 2330
38.	Madras	13°00'	80°11'	29	8th Apr. 1926	0530*	1130	1730* 2330
39.	Minicoy	08°18'	73°00'	16	14th Apr. 1941	0530	1730	2330
40.	Mohanbari	27°29'	95°01'	112	1st Jun. 1948	0530	1730	2330
41.	Nagpur	21°06'	79°03'	316	23rd Apr. 1943	0530*	1130	1730* 2330
42.	Nanpara	27°50'	81°30'	142	23rd Apr. 1957	0530	1730	
43.	New Delhi	28°35'	77°12'	227	20th Oct. 1936	0530*	1130	1730* 2330
44.	Poona	18°32'	73°51'	593	5th Jan. 1925	0530	1730	2330
45.	Port Blair	11°40'	92°43'	93	29th Oct. 1945	0530*	1130	1730* 2330
46.	Raipur	21°14'	81°39'	308	15th Jul. 1944	0530	1730	2330
47.	Raxaul	26°59'	84°51'	83	28th Oct. 1957	0530	1730	
48.	Santa Cruz	19°07'	72°51'	27	14th May 1933	0530*	1130	1730* 2330
49.	Tezpur	26°37'	92°47'	79	12th Aug. 1932	0530	1730	2330
50.	Tiruchirapalli	10°46'	78°43'	96	22nd Jun. 1936	0530	1730	2330
51.	Trivandrum	08°29'	76°57'	73	8th Dec. 1928	0530*	1130	1730* 2330
52.	Udaipur	24°35'	73°42'	587	24th Jun. 1947	0530	1730	2330
53.	Vengurla	15°52'	73°38'	8	22nd Nov. 1941	0530	1730	2330
54.	Veraval	20°54'	70°22'	17	13th Oct. 1941	0530*	1130	1730* 2330
55.	Visakhapatnam	17°43'	83°14'	10	24th Sep. 1928	0530	1730	2330

*Radiowind ascents.

†Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level.

November 1939 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	AGARTALA												AHMEDABAD															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	0.2	0.1	085	30	0.5	0.4	350	30	0.1	0.1	090	30	2.6	2.1	043	30	2.2	1.0	050	30	1.7	1.3	035				
0.15 a. g. . .	30	2.2	1.2	052	30	2.7	1.8	343	30	2.3	1.6	355	30	8.7	7.1	067	30	3.1	1.9	054	30	5.1	3.8	042				
0.3 a. m. s. l. . .	30	2.3	1.6	023	30	2.2	1.3	339	30	2.4	1.7	337	30	8.0	6.2	071	30	3.1	2.0	055	30	4.9	3.4	055				
0.6 „ . . .	30	2.6	1.5	022	30	1.5	0.5	335	30	2.4	1.6	331	30	5.7	3.9	075	30	3.3	2.1	051	30	4.3	3.1	061				
0.9 „ . . .	30	3.2	1.3	030	30	2.0	0.3	200	30	2.4	1.1	329	30	4.1	2.1	085	30	3.3	2.0	053	30	4.3	2.5	072				
1.5 „ . . .	30	3.1	1.2	317	30	3.1	1.4	293	30	3.1	1.3	296	29	4.0	1.8	179	30	3.7	0.5	043	30	5.0	1.6	140				
2.1 „ . . .	30	5.0	3.7	285	30	4.9	3.9	289	30	4.9	3.5	279	29	3.8	2.2	208	30	3.7	0.8	223	30	4.4	1.1	170				
3.0 „ . . .	30	9.7	9.2	280	29	9.1	8.9	281	26	9.0	8.8	276	23	4.7	2.9	091	28	5.7	4.1	261	30	5.5	3.1	257				
3.6 „ . . .	29	12.4	11.4	272	30	10.7	10.5	280	23	10.8	10.3	278	1	7.7	7.7	270	28	7.7	6.1	266	4	4.1	2.2	245				
4.5 „ . . .	28	14.3	13.6	273	20	12.5	12.0	281	14	13.3	11.5	277					26	9.9	8.5	265								
5.4 „ . . .	25	15.1	15.0	274	8	12.7	12.7	268	8	13.7	13.4	260					26	12.7	11.8	265								
6.0 „ . . .	20	17.3	16.9	268	6	16.2	16.1	275	5	9.9	9.6	275					24	14.4	13.2	261								
7.2 „ . . .	14	20.5	19.8	267					1	7.7	7.7	225					6	18.8	18.5	258								
9.0 „ . . .	6	20.3	19.7	257													1	21.6	21.6	264								

Station	AMAUSI												AMBALA															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	30	1.7	1.2	290	30	2.2	1.9	309	30	1.9	1.0	299	30	1.6	0.8	318	30	1.9	1.3	320	30	2.2	1.6	321				
0.15 a. g. . .	30	4.5	3.2	312	30	4.4	3.8	313	30	4.6	3.4	311	30	6.4	4.4	342	30	5.6	4.4	313	30	8.1	6.4	335				
0.3 a. m. s. l. . .	30	4.4	3.2	312	30	4.3	3.4	314	30	4.5	3.4	309	30	2.9	1.5	343	30	2.6	2.0	312	30	3.4	2.4	336				
0.6 „ . . .	30	4.9	4.2	311	30	4.7	4.3	302	30	4.7	4.0	304	30	6.6	4.9	338	30	6.7	5.3	317	30	7.5	6.2	329				
0.9 „ . . .	30	5.2	4.5	309	30	5.0	4.7	299	30	5.1	4.6	306	30	6.7	5.3	329	30	6.9	5.6	316	30	6.8	5.6	325				
1.5 „ . . .	30	7.3	5.7	307	30	5.9	5.3	307	29	5.2	4.6	300	30	7.3	5.7	315	30	7.5	5.9	321	30	6.8	5.2	321				
2.1 „ . . .	29	8.0	7.0	296	28	6.8	6.6	305	28	6.5	6.1	296	29	7.1	5.8	310	30	6.9	5.3	316	30	6.5	4.4	306				
3.0 „ . . .	15	6.1	5.6	286	25	8.4	7.9	296	15	11.6	6.8	289	27	5.9	5.3	298	30	5.8	4.1	292	28	5.3	3.9	285				
3.6 „ . . .	6	5.7	5.0	275	20	9.5	9.0	293	5	6.9	6.3	274	10	5.8	4.8	287	30	5.8	3.9	286	13	6.2	5.6	267				
4.5 „ . . .					17	11.2	10.7	289									29	8.0	7.3	288	4	10.1	9.5	253				
5.4 „ . . .					10	15.1	14.5	288									26	11.8	11.0	281								
6.0 „ . . .					5	14.0	12.5	274									24	15.4	14.6	278								
7.2 „ . . .					1	11.8	11.8	260									10	22.0	21.3	274								
9.0 „ . . .																	2	37.8	36.5	270								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Win's upto 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	BAIRAGARH								BAJPE								BAMRAULI											
	1730				2330				0530				1730				2330				0530*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.6	1.0	026	30	1.8	1.3	055	30	2.2	2.0	088	30	2.9	2.2	294	30	2.0	0.8	050	30	0.6	0.4	286				
0.15 a. g.	30	2.7	1.4	027	30	4.8	3.0	067	30	4.6	3.2	090	30	3.5	2.6	269	29	4.2	1.4	349	30	3.6	2.5	295				
0.3 a. m. s. l.									30	4.5	2.9	093	30	3.6	2.5	272	29	4.2	1.2	335	30	3.6	2.5	295				
0.6 "	30	2.6	1.4	028	30	4.6	2.9	067	30	4.7	2.9	098	30	2.9	0.7	314	29	3.8	0.8	358	30	4.0	3.2	311				
0.9 "	30	2.7	1.4	019	30	4.1	2.2	068	30	4.5	3.4	097	30	2.9	1.5	075	29	3.4	1.4	066	30	4.7	4.1	315				
1.5 "	30	2.4	0.6	339	30	2.9	0.3	050	29	5.4	4.9	104	27	5.6	5.0	081	28	5.8	5.0	087	30	6.5	6.0	308				
2.1 "	30	3.0	1.6	283	30	3.7	1.7	253	27	5.5	4.7	096	24	7.5	7.1	082	24	8.2	7.7	091	30	7.7	7.2	308				
3.0 "	29	5.9	4.6	274	30	4.5	3.4	279	21	7.3	6.0	084	19	7.3	6.5	080	18	6.7	6.0	082	29	9.0	8.3	296				
3.6 "	28	7.2	6.2	272	5	6.0	5.4	277	16	6.4	4.7	087	16	6.4	5.7	081	13	6.8	6.5	074	29	9.4	8.8	284				
4.5 "	25	9.5	8.4	272	2	6.4	5.3	290	6	5.7	5.1	092	14	6.5	5.7	070	4	6.4	5.8	082	29	11.6	10.8	276				
5.4 "	22	13.3	12.7	268					4	5.4	5.1	078	11	6.6	6.3	062	1	7.7	7.7	050	29	13.7	13.3	270				
6.0 "	21	14.1	13.6	268					2	6.7	5.3	100	8	7.8	7.5	062	1	9.3	9.3	050	29	16.5	15.9	269				
7.2 "	11	16.3	15.3	265									4	5.3	4.7	074					29	21.2	20.4	267				
9.0 "													2	5.4	2.6	237					27	28.4	27.7	263				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.6	1.3	287	30	1.9	1.6	305	30	5.5	0.3	272	30	3.9	3.5	079	30	3.9	3.4	267	30	4.5	4.3	085				
0.15 a. g.	30	2.5	1.7	271	30	5.1	4.6	298	30	4.5	2.6	317	21	7.3	6.8	077	29	5.6	5.0	085	19	8.1	7.9	089				
0.3 a. m. s. l.	30	2.5	1.9	288	30	5.1	4.6	298	30	4.7	3.0	318																
0.6 "	30	3.4	2.8	299	30	3.9	3.4	302	30	4.5	3.7	312																
0.9 "	30	4.7	3.9	305	30	4.1	3.7	303	30	4.8	4.0	305																
1.5 "	29	7.2	6.5	310	30	5.4	5.0	304	30	5.9	5.5	299	20	7.5	6.8	074	29	6.0	5.6	081	19	6.9	6.4	071				
2.1 "	29	7.6	7.1	309	30	7.4	7.0	302	29	6.5	6.3	305	19	5.3	4.2	071	24	5.2	4.7	074	17	5.6	4.9	073				
3.0 "	29	9.1	8.5	293	30	9.3	9.0	298	23	8.8	8.1	305	15	5.8	5.3	080	17	4.9	4.0	075	16	6.5	6.0	084				
3.6 "	28	10.0	9.8	288	30	10.0	9.6	288	2	10.6	9.4	311	14	5.9	5.5	085	17	4.8	3.8	084	16	6.8	5.6	083				
4.5 "	28	11.5	11.1	278	30	12.3	11.8	282					6	4.5	3.8	086	15	5.6	4.6	092	13	5.6	5.3	080				
5.4 "	26	14.9	14.3	270	30	15.6	15.1	273					3	3.8	3.6	051	15	5.4	4.7	084	3	3.8	3.7	056				
6.0 "	23	17.3	16.6	267	30	17.4	16.9	273					2	4.9	4.4	073	15	5.4	4.6	081	2	5.1	4.5	054				
7.2 "	14	21.6	20.2	269	30	21.9	21.1	268					1	2.1	2.1	275	15	6.1	4.4	087	1	4.1	4.1	100				
9.0 "	1	28.3	28.3	270	26	30.0	29.2	264					1	5.7	5.7	255	10	5.0	1.1	063								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	BAREILLY								BEGUMPET												BHAGALPUR			
	0530				1730				0530				1730				2330				0530			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.0	0.7	311	30	1.1	0.9	318	30	0.5	1.0	073	30	2.9	2.7	086	30	1.4	1.2	083	30	0.9	0.7	233
0.15 a. g.	30	4.9	3.8	319	30	3.8	3.2	303	30	4.8	4.2	103	30	4.7	4.5	089	30	6.4	5.8	088	30	3.0	2.1	300
0.3 a. m. s. l.	30	4.7	3.3	318	30	3.6	2.9	304													30	3.1	2.3	313
0.6 "	30	5.3	4.6	311	30	4.8	4.3	304	30	3.1	2.8	093	30	4.2	4.0	088	30	4.0	3.6	084	30	2.9	2.3	315
0.9 "	30	5.5	4.7	309	30	5.3	4.8	303	30	5.5	5.0	097	30	5.0	4.8	084	30	6.5	6.1	093	29	3.1	2.1	320
1.5 "	30	5.9	5.3	307	30	6.6	6.0	307	29	5.7	4.2	069	30	4.5	4.5	076	30	5.2	4.6	086	29	4.4	2.7	310
2.1 "	30	7.6	6.7	304	30	7.5	7.0	302	29	5.0	3.7	066	30	4.8	3.9	062	30	5.2	3.9	072	27	7.5	6.8	298
3.0 "	25	7.4	6.4	295	29	7.6	7.3	300	28	5.1	2.5	066	27	4.6	2.4	041	30	4.7	2.4	069	24	10.3	9.9	286
3.6 "	17	7.9	7.5	286	19	8.4	7.7	293	22	4.1	0.7	031	23	4.1	1.9	077	9	4.0	2.2	073	14	11.5	11.2	280
4.5 "	8	10.0	9.6	278	28	11.1	10.6	288	13	3.9	0.4	266	21	4.0	1.2	045	5	4.3	2.7	090	10	14.4	14.2	275
5.4 "	4	12.9	12.9	260	28	14.4	13.9	280	4	3.3	2.7	345	19	3.2	0.6	322					5	15.1	14.8	267
6.0 "	2	14.2	12.9	276	26	17.5	17.5	277	1	0.5	0.5	260	18	3.7	1.5	286					4	14.9	14.8	271
7.2 "					17	22.7	21.9	269					14	7.2	5.5	270								
9.0 "					1	31.9	31.9	250					8	11.8	9.7	240								

Station	BHAGALPUR				BHUBANESHWAR								BHUJ											
	1730				0530				1730				2330				0530				1730			
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.9	0.8	270	30	1.5	1.2	347	30	0.8	0.3	047	30	0.9	0.1	114	30	0.3	0.1	307	30	3.1	2.1	025
0.15 a. g.	30	2.5	2.1	290	30	3.2	1.6	350	30	3.0	2.0	048	30	3.6	2.5	123	30	5.0	3.4	008	30	4.9	3.4	034
0.3 a. m. s. l.	30	2.5	2.2	292	30	3.0	1.6	030	30	2.5	2.1	037	30	3.3	1.5	105	30	5.5	3.8	017	30	5.0	3.3	030
0.6 "	30	2.4	2.0	292	30	3.5	2.8	028	30	2.6	2.1	024	30	3.0	1.4	018	30	5.5	3.5	038	30	4.9	3.4	039
0.9 "	30	2.6	2.0	291	30	4.2	3.9	024	30	2.8	2.4	007	30	4.0	3.1	359	30	5.1	2.2	078	30	4.8	3.4	045
1.5 "	29	4.5	3.9	300	30	5.0	4.0	014	30	4.5	3.9	346	28	5.4	4.3	355	30	5.0	1.3	142	30	4.4	1.4	066
2.1 "	29	7.4	7.3	296	30	4.1	2.6	344	28	5.3	4.3	335	27	5.1	3.7	351	28	4.5	1.0	248	28	4.6	0.7	280
3.0 "	26	10.6	10.2	290	28	4.2	3.2	308	25	4.6	3.8	307	25	4.1	2.8	311	26	6.6	2.8	278	26	6.0	3.5	277
3.6 "	12	10.8	10.5	285	24	4.8	3.7	305	14	4.4	3.1	297	11	4.2	2.8	307	14	9.1	4.4	260	26	7.4	5.5	285
4.5 "	1	12.4	12.4	260	20	4.6	3.6	276	2	6.2	5.7	264	4	6.4	5.3	284	5	13.4	5.0	250	26	9.3	7.7	276
5.4 "					13	6.2	5.1	262					1	9.8	9.8	265					24	11.6	10.7	275
6.0 "					8	8.0	6.7	263					1	9.3	9.3	265					21	13.3	12.6	274
7.2 "																					11	15.6	14.8	272
9.0 "																					2	17.8	17.2	250

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	BHUIJ				BIKANER												CHIKALTHANA							
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.6	0.6	275	30	0.3	0.2	177	30	0.5	0.2	306	30	1.0	0.6	04)	30	1.2	0.7	078	30	2.5	1.7	099
0.15 a.g.	30	4.7	3.0	018	30	6.1	2.3	134	30	3.0	1.4	34)	30	5.5	3.7	048	30	5.4	4.8	102	30	3.5	2.5	089
0.3 a. m. s. l.	30	5.1	3.2	027	30	5.0	2.7	138	30	2.7	1.1	34)	30	4.5	3.0	053								
0.6 "	30	5.7	3.8	045	30	4.6	1.3	143	30	3.2	1.1	333	30	5.0	2.5	044								
0.9 "	30	6.8	3.5	056	30	4.1	0.8	240	30	3.2	1.0	331	30	4.5	1.3	058	30	6.4	6.0	113	30	3.5	2.8	085
1.5 "	30	5.0	2.7	100	30	4.6	2.2	285	30	3.4	0.6	314	30	3.9	1.1	222	30	4.9	3.8	106	30	3.5	2.8	073
2.1 "	30	5.3	0.7	215	29	4.7	2.9	295	30	4.3	1.2	255	29	4.0	1.7	268	28	3.5	0.7	078	30	3.7	2.0	073
3.0 "	29	5.9	3.7	271	29	5.7	3.5	293	30	6.4	4.5	258	28	6.2	4.4	272	27	3.0	0.4	273	28	2.8	0.4	346
3.6 "	15	7.6	6.3	268	22	6.5	5.3	278	27	8.2	6.9	256	24	6.7	5.5	273	17	3.5	0.6	236	27	3.1	1.3	246
4.5 "	10	8.5	6.9	271	6	12.7	11.5	258	26	10.9	9.4	271	7	8.4	7.2	282					20	4.6	1.9	278
5.4 "					3	16.3	16.3	254	25	14.8	13.1	269	2	10.6	10.4	275					19	6.3	4.2	279
6.0 "					1	17.5	17.5	255	25	17.5	15.6	269	1	12.9	12.9	280					17	6.4	5.0	269
7.2 "									13	21.9	20.6	267									5	14.3	10.0	267
9.0 "									6	33.1	26.6	266												

Station	CHIKALTHANA				COCHIN												DARJEELING							
	2330				0530				1730				2330				0830				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.9	0.9	073	30	1.1	0.9	076	30	3.0	2.1	264	30	1.1	0.9	092	30	0.3	0.2	071	29	0.4	0.1	180
0.15 a.g.	30	6.6	6.2	076	29	3.1	1.7	079	26	4.0	2.8	260	20	2.7	0.8	064	15	1.1	0.3	150	5	2.0	0.8	263
0.3 a. m. s. l.					29	3.2	0.5	014	26	3.8	2.1	249	20	2.7	0.7	035								
0.6 "					29	3.2	1.2	069	26	3.6	0.1	332	20	2.7	1.2	060								
0.9 "	30	7.5	6.9	086	29	3.3	1.6	084	26	3.8	1.9	069	20	3.0	2.3	076								
1.5 "	30	6.0	5.6	105	29	3.6	2.5	070	26	4.7	2.9	082	19	4.5	3.9	075								
2.1 "	30	4.0	3.0	117	28	4.0	2.7	093	24	5.1	3.9	080	18	4.7	4.1	076								
3.0 "	29	2.9	0.4	275	23	4.5	3.1	085	21	5.7	3.2	062	14	5.1	4.3	076	15	2.0	0.3	193	5	2.2	2.2	021
3.6 "	18	3.4	0.9	270	15	4.3	3.1	096	19	5.8	4.8	076	7	6.5	5.3	072	15	6.9	5.0	297	4	4.8	0.8	288
4.5 "	8	4.0	1.8	277	9	5.0	4.8	075	13	6.2	5.4	077	3	4.6	4.5	103	9	14.5	17.6	227	1	11.3	11.3	270
5.4 "	1	7.2	7.2	275	6	9.5	4.5	080	12	7.9	7.0	079	2	5.1	5.1	084	5	14.6	14.3	261	1	23.2	23.2	280
6.0 "	1	8.7	8.7	275	2	6.4	6.2	103	10	8.5	7.9	074	2	8.0	8.0	078	3	17.7	17.5	272				
7.2 "									7	11.6	11.5	065					1	10.3	10.3	285				
9.0 "									5	9.2	8.9	081					1	41.5	41.5	275				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	DEHRA DUN								DUM DUM															
	0530				1730				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.8	0.7	006	30	0.5	0.4	264	30	0.1	0.1	350	30	1.9	1.7	002	30	0.1	0.1	360	30	0.1	0.1	095
0.15 a. g.	30	2.0	1.0	048	30	2.5	1.9	278	30	3.7	2.8	355	28	3.0	2.5	348	30	2.9	2.5	334	30	3.1	2.1	353
0.3 a. m. s. l.									30	3.9	3.2	358	29	3.3	2.9	352	30	2.8	2.4	335	30	2.9	2.3	352
0.6 "									30	4.0	3.8	356	30	3.4	3.1	355	30	2.5	2.3	335	30	3.2	2.8	348
0.9 "	30	1.6	0.6	060	30	2.5	2.0	279	30	4.4	4.2	349	30	3.7	3.2	349	30	2.6	1.9	331	30	3.5	3.2	338
1.5 "	30	1.9	0.5	307	30	2.0	1.2	311	30	4.8	4.4	330	29	4.8	4.0	318	30	3.8	3.3	319	30	4.8	4.3	317
2.1 "	29	3.1	1.8	299	27	2.7	1.2	322	30	5.3	4.5	297	28	6.2	5.5	305	30	5.7	5.2	232	30	6.0	5.4	309
3.0 "	26	4.6	3.0	300	25	3.8	2.5	306	30	7.2	6.8	280	27	8.4	7.8	293	30	7.3	6.9	295	28	7.4	6.4	292
3.6 "	24	5.7	3.7	284	20	4.9	2.9	282	30	8.9	8.6	278	26	9.3	8.9	290	30	8.1	7.7	286	11	7.9	7.4	295
4.5 "	10	8.0	7.3	285	17	9.8	8.0	290	30	9.8	9.6	275	25	10.3	10.0	286	30	8.9	8.2	281	2	4.6	4.6	286
5.4 "	3	11.3	11.2	287	14	14.3	13.0	277	30	10.8	10.3	272	24	11.0	10.8	284	30	10.5	10.0	278	1	10.8	10.8	275
6.0 "	2	13.9	13.9	277	12	17.4	16.3	279	30	12.3	12.0	268	24	12.2	11.9	276	30	12.0	11.5	270	1	12.9	12.9	275
7.2 "					4	22.3	21.9	270	30	15.7	11.6	267	14	15.6	15.4	276	30	13.7	13.3	267				
9.0 "									30	18.5	16.0	261	7	23.3	22.8	272	27	17.4	16.4	260				

Station	GADAG												GANNAVARAM											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	3.9	3.2	091	30	3.8	3.4	099	30	3.9	3.4	094	30	2.3	2.2	036	30	3.2	2.8	088	30	2.6	2.5	077
0.15 a. g.	29	8.0	6.6	097	30	5.9	5.4	093	30	8.9	7.9	089	30	5.5	5.3	078	30	4.4	4.1	087	30	6.0	5.8	092
0.3 a. m. s. l.													30	5.9	5.7	086	30	4.6	4.3	086	30	6.5	6.4	090
0.6 "													30	5.7	5.3	081	30	4.5	4.2	077	30	6.2	6.0	085
0.9 "	29	7.8	7.1	097	30	6.4	5.9	090	30	9.2	8.5	089	30	5.3	4.7	066	30	4.5	4.0	066	30	4.9	4.4	070
1.5 "	29	7.4	6.5	089	29	6.3	5.9	089	30	8.3	8.0	092	29	5.1	4.2	065	30	5.0	4.1	060	30	5.8	4.6	053
2.1 "	28	5.9	4.8	088	26	5.8	5.2	086	29	7.1	6.3	084	29	4.9	3.3	069	29	5.6	4.4	059	29	5.8	4.4	071
3.0 "	23	5.5	4.6	080	20	5.1	4.3	075	24	5.7	4.9	078	27	4.7	1.6	074	25	5.2	3.0	036	28	5.0	2.5	072
3.6 "	16	4.0	2.9	069	17	5.5	4.6	074	19	4.9	4.2	078	23	4.5	1.7	107	24	4.7	1.7	062	23	4.6	2.5	076
4.5 "	5	4.0	1.6	115	13	5.3	4.0	063	10	3.3	2.2	076	17	3.2	0.1	063	23	3.7	0.9	066	21	4.1	1.4	068
5.4 "	1	3.6	3.6	220	12	4.8	3.8	056	3	4.0	1.0	314	9	3.6	1.4	060	18	2.8	0.4	346	14	3.5	0.1	044
6.0 "	1	2.6	2.6	260	12	4.5	2.7	054	3	5.5	2.1	316	6	3.5	2.5	004	18	3.4	0.5	354	10	3.6	0.1	298
7.2 "					5	5.1	1.1	002	1	1.5	1.5	355	1	6.2	6.2	305	17	5.5	1.4	261	1	6.2	6.2	085
9.0 "					6	5.3	4.9	270					1	14.4	14.4	265	15	8.0	4.2	247				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 Km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	GAUHATI																GAYA							
	0530*				1130				1730*				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.1	0.1	230	30	1.0	0.5	010	30	0.2	0.1	051	30	0.3	0.1	125	30	1.1	0.8	183	30	1.1	1.1	316
0.15 a. g.	30	2.1	1.2	109	27	2.6	1.2	018	30	2.7	1.5	054	30	2.0	0.7	129	30	3.8	2.8	251	30	4.3	3.8	307
0.3 a. m. s. l.	30	2.1	1.2	106	28	2.6	1.4	046	30	2.7	1.5	048	30	2.4	1.1	095	30	3.7	2.5	263	30	4.3	3.9	307
0.6 "	30	3.2	2.0	090	29	3.1	2.0	073	30	2.6	1.4	069	30	2.9	1.4	080	30	4.0	3.0	307	30	4.4	4.0	302
0.9 "	30	4.2	2.6	089	30	3.7	2.3	098	30	2.7	0.7	055	30	2.8	1.1	066	30	4.7	4.2	312	30	4.6	4.4	292
1.5 "	30	4.8	1.9	104	30	4.2	2.6	052	30	3.3	1.3	223	27	2.8	0.7	026	30	6.5	6.1	302	30	6.1	5.5	295
2.1 "	30	4.8	1.2	092	29	3.7	1.5	143	30	3.4	2.2	215	23	2.6	0.0	005	28	8.2	7.8	305	25	7.6	7.0	305
3.0 "	30	4.5	3.1	295	24	3.9	2.7	254	30	4.9	3.7	280	15	4.1	2.2	270	20	9.8	9.2	292	14	9.6	8.7	303
3.6 "	30	11.3	10.7	282	21	10.3	6.4	285	30	11.1	10.4	280					12	10.8	10.3	282	4	10.4	4.5	265
4.5 "	30	19.4	19.0	271	14	14.4	13.8	275	30	18.6	18.2	275					5	12.4	11.1	271	1	11.8	11.8	020
5.4 "	28	20.5	20.3	273	9	18.0	15.7	272	30	22.4	22.3	275					2	16.5	16.2	260	1	16.0	16.0	005
6.0 "	28	23.7	23.2	272	9	20.8	18.4	273	30	23.8	23.5	278					2	17.0	17.0	248				
7.2 "	28	29.2	28.8	271	3	22.4	22.4	265	30	29.5	28.8	272					1	30.3	30.3	265				
9.0 "	24	36.9	36.2	270					20	37.9	37.7	271												

Station	GAYA				GOPALPUR												GORAKHPUR							
	2330				0530				1730				2330				0530				1730			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.9	0.7	190	30	2.5	2.5	328	30	2.5	2.1	091	30	1.2	1.0	323	30	0.8	0.5	280	30	0.9	0.9	267
0.15 a. g.	30	3.6	2.2	305	30	4.6	4.1	350	30	3.4	2.9	082	30	2.8	1.2	031	30	3.9	2.7	282	30	3.7	2.9	268
0.3 a. m. s. l.	30	3.7	2.6	316	30	3.1	2.3	035	30	3.6	3.1	059	30	2.9	1.9	065	30	3.8	2.7	286	30	3.7	1.3	272
0.6 "	30	4.2	3.4	307	30	3.3	2.7	047	30	3.6	3.3	032	30	3.1	2.5	051	30	3.8	2.9	295	30	4.3	3.6	275
0.9 "	30	5.0	4.2	297	30	3.8	3.4	035	30	4.3	4.0	004	30	4.2	3.4	028	30	4.5	3.4	302	30	4.7	3.8	280
1.5 "	30	6.4	5.9	289	30	4.6	3.9	023	30	5.2	4.0	353	30	4.6	3.7	011	30	6.2	4.3	300	30	5.6	4.1	302
2.1 "	27	7.5	7.1	302	30	4.0	2.2	005	30	4.3	3.2	349	30	4.2	2.5	006	30	7.9	6.9	297	30	7.6	6.6	308
3.0 "	20	9.1	8.6	297	29	3.7	2.1	329	29	4.1	2.7	343	29	3.4	1.5	349	27	9.4	8.7	296	28	9.6	9.0	297
3.6 "	10	10.0	9.2	285	26	3.8	1.8	332	29	3.5	1.7	334	19	2.9	1.0	001	14	9.5	9.2	282	22	10.3	9.6	297
4.5 "					22	4.7	2.1	285	25	4.4	2.1	311	6	4.4	1.7	260	1	11.8	11.8	285	17	12.7	12.3	291
5.4 "					14	4.2	2.3	275	18	5.4	3.7	289	3	5.1	3.7	245	1	18.0	18.0	285	6	16.3	16.1	292
6.0 "					10	5.7	2.8	298	15	6.1	3.2	269	1	9.3	9.3	230	1	17.0	17.0	285	1	22.1	22.1	278
7.2 "					7	7.2	4.1	219	4	4.0	3.5	269												
9.0 "					3	7.7	5.7	274	2	6.9	3.9	247												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	GWALIOR												IMPHAL											
	0530				1730				2330				0530				1730				2330			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.6	0.4	230	30	0.9	0.6	340	30	0.3	0.1	149	30	0.1	0.1	180	30	1.6	1.1	277	30	0.1	0.1	274
0.15 a. g.	30	4.0	0.5	331	30	3.7	2.7	349	30	3.8	2.0	002	19	0.9	0.6	173	30	2.7	2.1	250	30	0.9	0.4	061
0.3 a. m. s.l.	30	3.3	1.2	319	30	3.3	2.4	349	30	3.0	1.4	002												
0.6 "	30	4.0	1.9	335	30	4.0	2.8	337	30	4.3	2.8	348												
0.9 "	30	1.9	2.5	318	30	4.0	2.9	325	30	4.1	2.8	324	19	0.9	0.6	174	30	2.8	2.1	257	30	1.0	0.4	065
1.5 "	30	5.6	4.2	304	30	4.8	3.4	306	29	4.9	3.3	302	19	1.7	1.0	082	30	2.1	1.6	217	30	1.5	0.5	199
2.1 "	30	6.3	5.1	291	30	5.9	4.5	303	29	5.3	4.3	286	19	2.6	1.9	161	29	3.1	2.2	221	30	3.3	2.4	219
3.0 "	30	7.6	6.4	278	29	7.7	6.8	288	29	7.3	6.5	285	18	8.1	7.7	265	28	8.4	8.1	266				
3.6 "	27	8.4	7.3	279	28	10.1	9.4	282	25	9.0	8.2	270	16	12.0	11.7	270	20	13.3	13.2	275	19	12.0	11.8	270
4.5 "	15	9.8	8.8	281	28	12.0	11.4	277	1	10.8	10.8	315	13	15.3	11.6	263	5	16.7	16.6	279	2	13.6	13.5	278
5.4 "	7	11.2	9.2	289	23	15.2	14.8	275					7	17.3	14.3	271								
6.0 "	3	15.4	12.0	309	21	17.8	17.2	273					5	15.7	15.5	268								
7.2 "					14	22.6	22.1	268					1	20.1	20.1	260								
9.0 "																								

Station	JABALPUR												JAGDALPUR											
	0530				1730				2330				0530				1730				2330			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.0	0.9	132	30	1.6	1.1	022	30	0.9	0.7	116	C	A	L	M	30	1.2	1.1	042	30	0.1	0.1	068
0.15 a. g.	30	4.2	2.2	088	30	3.3	2.5	013	30	4.6	3.5	058	29	3.6	3.4	050	30	5.1	5.0	039	30	5.7	5.5	059
0.3 a. m. s.l.																								
0.6 "	30	4.5	2.5	076	30	3.4	2.6	010	30	4.8	3.8	054	30	1.6	1.4	047	30	3.5	3.4	039	30	3.4	3.2	061
0.9 "	30	4.5	2.7	042	30	3.4	2.7	002	30	4.0	3.3	042	28	4.3	4.0	062	30	5.3	5.1	038	30	6.0	5.6	057
1.5 "	30	4.1	3.4	331	30	3.4	2.7	344	30	3.3	2.2	343	26	4.4	3.4	034	30	3.8	3.1	034	30	3.8	2.7	043
2.1 "	30	5.8	4.6	303	30	4.5	3.8	318	30	4.5	3.6	302	25	4.9	3.1	011	30	4.6	2.6	038	29	4.6	2.9	032
3.0 "	30	6.3	5.5	299	29	6.4	5.4	297	30	6.1	4.8	291	21	3.6	0.9	007	26	5.1	2.9	033	28	4.6	1.6	360
3.6 "	28	6.7	5.8	289	29	7.9	7.3	289	25	7.3	5.9	287	13	4.3	0.6	335	23	4.6	1.7	347	21	3.3	0.7	054
4.5 "	24	8.5	7.6	271	29	9.8	8.9	281	12	8.8	8.4	283	6	2.9	2.0	027	20	4.4	1.3	327	8	4.2	0.4	151
5.4 "	16	8.6	7.9	264	27	11.4	10.5	273	1	5.7	5.7	220	1	2.6	2.6	355	13	4.7	2.8	280	4	5.7	5.3	291
6.0 "	8	10.3	8.7	243	25	13.5	12.9	270	1	12.9	12.9	270					11	4.5	3.6	257	3	5.1	5.0	278
7.2 "	1	16.0	16.0	270	18	15.6	14.7	269									6	8.0	6.0	255	1	2.6	2.6	300
9.0 "					5	17.8	16.5	257									2	6.2	3.7	210				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR												JHARSUGUDA			
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	1.3	0.9	040	30	1.5	0.4	358	30	1.1	0.7	027	30	0.9	0.8	286	30	0.8	0.4	355	30	1.7	1.6	016				
0.15 a. g.	30	4.1	1.8	043	29	2.8	0.8	326	30	4.7	1.7	049	30	2.3	2.0	297	30	2.0	1.3	353	30	4.7	4.5	036				
0.3 a. m. s. l.													30	2.4	1.6	320	30	2.0	1.4	351	30	4.4	4.3	026				
0.6 "	30	4.2	1.5	050	29	2.8	0.8	333	30	4.8	1.2	043	30	2.9	2.4	359	30	2.4	2.0	346	30	4.1	3.2	027				
0.9 "	30	3.2	1.2	050	29	3.0	1.6	330	30	4.3	0.8	550	30	3.6	3.2	350	30	2.9	2.4	342	30	3.9	3.0	009				
1.5 "	30	4.5	2.3	311	29	3.5	2.6	320	30	3.6	1.0	284	30	5.7	5.0	326	30	5.3	4.7	325	30	4.4	3.3	341				
2.1 "	29	5.9	3.9	296	28	4.3	3.4	317	30	4.7	2.9	274	30	6.2	5.5	308	30	7.2	6.4	317	30	6.6	5.1	338				
3.0 "	27	7.2	5.5	279	28	7.2	6.3	284	30	6.7	5.5	262	29	7.2	6.6	293	29	8.2	7.2	309	28	6.0	5.1	309				
3.6 "	26	8.3	7.5	280	28	9.6	8.5	277	29	8.0	6.7	275	19	8.5	8.0	282	16	7.7	7.3	285	18	6.3	5.2	299				
4.5 "	14	9.4	8.9	265	25	12.4	12.4	274	18	11.5	8.9	264	13	9.6	8.8	269	8	9.6	8.7	282	1	4.1	4.1	290				
5.4 "	3	14.1	13.9	250	21	15.1	14.5	276	7	14.4	13.8	271	8	9.7	9.1	261	1	8.2	8.2	235	1	10.3	10.3	285				
6.0 "	1	25.2	25.2	262	21	18.0	17.0	271	2	16.0	15.9	252	5	11.5	10.6	251	1	8.2	8.2	230								
7.2 "					17	26.1	24.8	272					1	8.2	8.2	210	1	9.3	9.3	230								
9.0 "					6	37.3	36.5	268																				

Station	JHARSUGUDA								JODHPUR																			
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	0.7	0.1	051	30	0.7	0.3	033	29	2.2	1.6	024	30	1.7	1.0	083	30	1.7	0.5	060	30	2.2	1.2	035				
0.15 a. g.	30	2.1	0.6	031	30	2.6	0.1	282	28	2.2	1.5	027	30	2.6	1.2	105	30	2.1	0.5	070	30	5.3	2.1	095				
0.3 a. m. s. l.	30	2.2	0.4	040	30	2.3	0.6	065	29	2.8	1.6	049	30	2.5	0.8	079	30	2.3	0.6	052	30	4.5	2.2	076				
0.6 "	30	2.1	1.0	353	30	2.6	0.8	307	29	4.1	1.6	061	30	2.9	1.2	118	30	3.3	1.0	053	30	4.9	1.7	097				
0.9 "	30	2.6	1.8	349	30	2.8	1.6	329	29	3.8	0.6	092	30	3.4	1.4	115	30	3.3	0.6	052	30	4.4	1.3	097				
1.5 "	30	5.1	4.5	003	30	3.9	2.8	004	29	4.2	0.8	211	30	4.2	0.3	132	30	3.8	0.5	011	30	3.9	0.9	123				
2.1 "	29	6.0	4.9	343	30	5.3	3.8	338	29	4.9	2.2	266	29	4.1	1.1	278	30	4.4	1.9	278	30	4.6	0.8	236				
3.0 "	29	6.8	5.8	316	30	6.1	5.0	308	28	6.5	4.0	270	27	6.1	4.2	248	30	6.7	5.0	263	28	6.1	3.9	268				
3.6 "	28	7.2	6.4	296	29	6.8	5.6	299	26	8.1	6.1	263	26	8.1	7.1	258	29	8.8	7.3	258	8	7.9	6.4	273				
4.5 "	24	8.3	7.9	344	1	6.7	6.7	310	25	10.7	9.0	253	27	11.3	10.5	264	27	12.1	10.6	262	3	8.4	7.4	260				
5.4 "	3	15.1	14.8	277					20	13.8	13.1	262	27	14.7	13.9	265	27	15.7	14.4	262								
6.0 "									19	17.9	17.5	264	26	17.1	16.5	265	22	18.1	17.1	268								
7.2 "									18	23.6	21.9	270	19	19.9	19.6	270	18	22.8	22.0	265								
9.0 "									16	32.5	32.3	262	5	30.3	29.4	263	12	35.1	33.7	263								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	MADRAS																MINICOY							
	0530*				1130				1730*				2330				0530				1730			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	2.2	1.7	018	30	4.6	4.2	032	30	4.8	4.0	038	30	2.7	2.4	016	30	1.7	1.0	286	30	2.0	1.0	313
0.15 a. g.	30	7.9	7.3	055	29	6.6	6.0	040	30	9.4	8.4	060	28	5.9	5.6	047	30	3.4	2.0	285	29	3.7	1.4	325
0.3 a. m. s. l.	30	7.7	7.2	054	29	7.4	6.9	040	30	8.6	7.8	056	28	6.6	6.2	052	30	3.5	1.7	290	29	4.2	1.6	328
0.6 "	30	7.0	6.2	050	29	8.3	7.8	041	30	7.9	7.6	050	28	7.4	6.8	055	30	3.8	1.3	300	29	4.4	1.6	326
0.9 "	30	7.6	6.4	054	24	7.4	6.9	040	30	7.9	7.2	053	28	7.1	6.5	058	30	3.6	0.7	330	29	4.2	0.9	333
1.5 "	30	6.8	5.7	063	18	7.1	5.9	050	30	6.7	5.5	065	25	6.0	5.3	058	29	4.5	1.3	076	28	4.4	0.7	026
2.1 "	30	7.1	5.8	072	14	6.6	5.9	063	30	7.3	5.8	072	19	6.1	4.6	064	29	4.3	1.7	092	28	4.8	1.5	065
3.0 "	30	5.9	4.3	088	6	6.7	6.3	054	30	6.0	4.8	075	18	4.8	4.1	074	25	4.6	2.1	106	24	5.6	2.4	075
3.6 "	30	5.5	3.9	092	5	6.6	5.8	067	30	5.9	4.7	085	7	5.0	3.8	077	12	5.5	1.3	122	22	6.2	3.9	080
4.5 "	30	6.5	5.3	091	4	5.4	5.3	083	30	6.9	6.0	102	2	3.9	3.9	097	1	6.7	6.7	085	17	6.7	5.3	078
5.4 "	30	6.4	5.3	091	3	8.9	8.7	066	30	7.8	6.3	094	1	2.6	2.6	065					15	7.0	6.0	075
6.0 "	29	7.4	5.8	085	3	9.1	8.9	081	28	6.0	4.9	088	1	3.1	3.1	080					14	7.2	6.3	077
7.2 "	28	8.7	5.4	099	2	5.1	5.0	042	27	6.9	5.5	078									13	8.1	7.3	085
9.0 "	28	7.3	4.7	110					23	7.3	5.3	116									11	8.4	7.5	095

Station	MINICOY				MOHANBARI								NAGPUR											
	2330				0530				1730				2330				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	1.9	0.3	350	30	0.1	0.1	045	C	A	L	M	30	0.1	0.1	045	30	0.7	0.7	359	30	0.9	0.7	056
0.15 a. g.	29	3.4	0.7	350	28	4.4	4.1	062	30	2.3	1.7	043	30	2.7	2.6	033	30	4.3	4.0	055	29	2.1	1.6	055
0.3 a. m. s. l.	29	3.5	0.8	002	28	4.1	3.8	055	30	2.1	1.6	047	30	2.6	2.3	039								
0.6 "	29	3.7	0.8	360	28	2.6	2.2	039	30	2.0	1.5	060	30	2.1	1.9	053	30	4.0	3.6	064	29	2.4	2.2	072
0.9 "	29	3.8	0.6	038	28	2.3	1.9	051	30	1.9	1.4	058	30	2.6	2.2	060	30	3.5	3.0	084	29	2.7	2.3	069
1.5 "	29	4.3	1.4	088	27	2.3	1.1	082	29	2.0	0.7	076	30	2.4	1.2	077	30	3.5	1.9	053	30	3.5	2.3	046
2.1 "	29	4.3	2.4	087	25	2.3	0.8	133	28	2.5	1.4	190	30	2.6	0.7	186	30	3.6	2.1	351	29	4.0	1.9	005
3.0 "	26	5.4	4.1	070	24	3.3	0.9	157	28	4.0	3.1	192	29	3.2	2.1	202	30	4.7	2.9	300	28	4.6	2.2	290
3.6 "	21	6.2	5.4	070	22	3.5	0.3	287	13	3.5	1.5	236	14	4.0	2.9	217	30	5.0	3.2	280	27	5.3	3.0	279
4.5 "	18	6.5	6.0	070	18	9.8	8.1	270	1	1.5	1.5	351	2	5.4	5.4	255	30	5.8	4.2	280	27	5.6	3.9	271
5.4 "					14	18.0	16.3	269									30	7.2	5.8	277	28	6.9	5.7	267
6.0 "					10	16.1	14.9	268									29	8.5	7.5	265	26	7.9	6.8	265
7.2 "					2	20.1	19.9	268									29	11.4	10.4	262	21	13.0	12.0	260
9.0 "																	28	17.0	16.0	259	16	18.0	17.0	257

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	NAGPUR								NANPARA								NEW DELHI							
	1730*				2330				0530				1730				0530*				1130			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.4	1.4	055	30	0.5	0.3	024	30	0.8	0.6	290	30	0.6	0.5	300	30	1.4	1.1	309	30	3.7	2.6	308
0.15 a. g.	30	4.7	4.5	057	30	4.3	3.5	091	30	4.0	2.5	318	30	3.2	2.8	308	30	5.5	3.9	327	30	4.2	2.2	309
0.3 a. m. s. l.									30	4.0	2.7	312	30	3.2	2.8	306	30	5.1	3.7	324	30	4.2	2.5	307
0.6 "	30	4.3	4.0	055	30	4.2	3.7	087	30	4.2	3.5	310	30	3.3	3.1	297	30	5.7	4.5	326	30	4.8	3.1	308
0.9 "	30	3.1	2.6	051	30	3.9	3.4	076	30	4.0	3.2	315	30	3.7	3.3	295	30	5.8	4.6	324	30	5.9	4.1	318
1.5 "	30	3.2	2.2	309	30	4.0	3.2	045	29	5.6	4.1	308	30	5.1	3.7	295	30	7.2	5.8	317	30	6.8	5.6	317
2.1 "	30	3.2	2.1	350	29	3.3	1.6	006	28	7.5	5.7	308	30	7.3	5.3	310	30	8.0	6.2	305	30	7.3	5.8	317
3.0 "	30	4.9	3.2	296	27	4.8	1.7	289	24	7.5	7.3	300	28	7.8	7.7	304	30	8.4	6.8	290	30	7.5	6.0	300
3.6 "	30	5.2	3.6	277	17	4.5	2.6	296	13	6.9	6.1	293	27	8.9	8.5	297	30	8.1	6.8	278	28	9.1	8.7	285
4.5 "	30	6.0	4.7	277	6	5.6	1.7	315	3	7.4	4.6	268	16	11.0	10.6	290	30	11.3	10.3	271	27	11.1	10.0	281
5.4 "	30	7.8	6.8	271	1	4.1	4.1	200					7	14.7	14.3	280	30	16.2	15.2	269	27	15.3	13.9	278
6.0 "	30	8.7	7.9	268	1	5.1	5.1	205					3	17.0	16.5	283	30	18.9	18.0	270	25	18.1	16.5	281
7.2 "	30	12.7	11.1	267													30	24.7	23.9	270	17	20.5	20.1	276
9.0 "	28	17.2	16.5	253													30	35.2	34.3	266	6	32.9	31.7	278

Station	NEW DELHI								POONA								PORT BLAIR							
	1730*				2330				0530				1730				2330				0530*			
	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.6	1.4	320	30	1.5	1.0	311	30	0.1	0.1	074	30	0.5	0.2	148	30	0.2	0.1	156	30	2.1	1.7	055
0.15 a. g.	30	5.6	4.4	322	30	5.8	3.5	335	29	3.9	3.4	101	29	2.9	2.1	098	28	3.8	1.9	081	30	6.1	4.9	063
0.3 a. m. s. l.	30	5.6	4.4	322	30	5.1	2.9	332													30	6.0	5.0	063
0.6 "	30	5.3	4.2	322	30	6.0	4.2	331	29	1.2	0.7	080	29	2.0	1.2	107	28	1.2	0.4	166	30	6.2	5.5	069
0.9 "	30	5.4	4.4	318	30	5.9	4.5	325	29	5.7	5.3	111	29	3.3	2.5	090	28	5.5	4.5	087	30	6.7	6.0	078
1.5 "	30	6.3	5.1	309	30	6.5	5.1	308	29	6.3	5.7	114	29	3.8	3.2	085	28	6.2	5.5	094	30	7.2	6.5	086
2.1 "	30	6.6	5.2	308	29	6.7	5.5	290	28	4.4	3.0	108	29	4.1	3.2	085	28	5.8	4.9	102	30	6.3	5.3	091
3.0 "	30	7.6	6.5	289	22	7.2	6.3	285	25	3.7	1.1	076	23	4.0	2.8	070	27	3.3	1.3	098	30	5.8	4.4	090
3.6 "	30	8.9	7.8	284	8	8.4	7.9	272	21	3.1	2.0	056	23	4.2	2.0	053	25	3.9	0.6	056	29	6.3	5.3	084
4.5 "	30	11.1	10.3	279					9	4.3	2.2	318	22	4.2	1.1	016	13	4.2	1.1	356	28	7.4	6.5	080
5.4 "	30	14.9	14.1	274									21	4.6	2.3	296	7	5.9	3.8	306	27	8.4	7.9	087
6.0 "	30	18.5	17.7	274									20	5.9	4.4	280	6	7.6	6.4	292	26	10.0	9.5	090
7.2 "	30	24.1	23.5	272									16	9.2	7.2	274	1	6.2	6.2	360	25	9.6	8.9	082
9.0 "	28	35.0	33.2	266									12	13.2	12.3	253					23	10.1	8.5	086

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	PORT BLAIR												RAIPUR											
	1130				1730*				2330				0530				1730				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	3.2	2.7	059	30	3.2	3.0	063	30	3.0	2.6	062	30	0.9	0.5	005	30	0.8	0.6	040	30	0.8	0.7	129
0.15 a. g.	29	5.0	4.3	064	30	7.2	6.2	072	29	6.0	5.1	063	30	4.2	3.3	044	30	3.0	2.5	041	30	3.9	3.2	098
0.3 a. m. s. l.	29	5.4	4.7	065	30	7.1	6.1	071	29	6.0	5.1	062												
0.6 "	28	6.4	5.7	063	30	6.9	6.1	070	29	6.2	5.5	066	30	4.0	3.4	055	30	3.3	2.8	039	30	3.6	3.0	081
0.9 "	27	6.2	5.6	079	30	7.4	6.1	077	27	6.2	5.7	074	30	3.7	3.3	048	30	3.3	2.8	037	30	3.4	2.8	060
1.5 "	27	5.3	4.9	088	30	6.0	5.4	088	27	5.4	5.0	083	30	4.3	3.4	028	30	3.5	3.1	022	30	4.5	3.7	030
2.1 "	25	4.6	4.0	081	30	6.1	5.2	090	22	4.0	3.2	083	29	4.9	3.7	352	30	4.5	3.6	352	29	4.3	2.6	007
3.0 "	22	4.8	3.5	077	29	4.9	3.5	085	19	4.3	2.9	085	28	5.5	3.6	330	28	5.7	4.2	314	28	5.3	3.5	326
3.6 "	20	5.6	4.4	079	28	6.0	5.1	082	14	4.4	3.8	080	17	5.1	3.3	288	27	6.3	4.9	297	14	5.2	4.1	297
4.5 "	19	6.2	5.4	087	28	7.6	6.4	079	7	6.8	6.1	079	4	7.5	7.4	266	27	7.2	6.1	288	3	6.7	6.6	278
5.4 "	14	7.2	6.6	083	28	8.7	7.7	081	2	11.8	11.8	085					20	7.7	6.8	280	2	6.4	6.4	267
6.0 "	13	7.7	7.4	084	27	10.0	9.2	085	2	11.8	11.8	090					12	9.5	9.2	279	2	8.5	8.5	263
7.2 "	6	12.5	11.8	091	27	10.5	9.9	095									6	13.4	13.1	262				
9.0 "	3	9.9	9.6	263	22	10.6	9.9	085									2	16.5	16.3	266				

Station	RAXAUL								SANTA CRUZ															
	0530				1730				0530*				1130				1730*				2330			
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface.	30	0.1	0.1	157	30	0.1	0.1	245	30	1.7	1.5	064	30	2.5	1.9	081	30	3.3	2.5	319	30	1.2	0.8	035
0.15 a. g.	28	3.2	1.7	295	30	3.9	3.4	256	29	4.9	4.1	053	30	2.9	2.4	084	30	5.9	4.7	335	30	3.8	2.8	025
0.3 a. m. s. l.	28	3.2	1.9	284	30	3.9	3.4	258	29	4.8	4.1	064	30	3.2	2.8	090	30	5.1	3.7	337	30	4.2	3.2	027
0.6 "	28	2.9	2.4	279	30	3.5	3.1	263	29	5.0	4.1	086	30	3.5	2.8	081	30	3.7	2.3	033	30	4.4	3.4	039
0.9 "	28	2.4	1.8	276	30	3.2	2.7	272	29	5.0	3.6	093	30	3.5	2.3	081	30	3.5	2.5	050	30	4.1	2.3	062
1.5 "	21	3.0	0.1	037	30	2.7	1.0	286	29	3.6	2.4	117	30	3.6	1.6	081	30	4.4	3.1	076	30	4.8	4.2	103
2.1 "	20	4.1	0.5	339	29	4.4	1.1	355	29	3.6	1.7	133	30	3.8	1.4	096	29	4.2	2.8	074	29	4.7	3.8	110
3.0 "	17	10.0	9.8	289	23	9.1	8.7	291	28	3.8	0.7	217	29	3.3	0.8	096	29	2.8	1.0	094	27	2.9	0.4	121
3.6 "	10	10.5	9.9	283	21	11.3	11.0	285	28	4.5	0.1	270	27	3.8	0.5	062	29	3.7	0.3	233	19	3.2	0.2	209
4.5 "	2	15.2	15.1	276	13	13.5	13.3	283	27	5.1	1.4	270	27	4.5	0.5	150	29	5.1	0.8	253	6	4.4	2.3	344
5.4 "					7	14.9	14.8	271	26	6.9	3.7	267	27	4.9	1.6	252	29	6.2	3.0	253	2	3.3	2.6	291
6.0 "					2	18.8	18.6	263	25	6.9	4.6	273	27	5.9	3.3	239	29	6.8	4.2	257	1	2.6	2.6	035
7.2 "									25	10.4	8.0	263	21	9.0	7.5	257	29	9.7	6.5	259				
9.0 "									21	13.4	11.5	254	16	12.9	12.3	250	22	12.7	11.5	250				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.3	0.2	086	30	0.2	0.2	090	30	0.4	0.3	078	30	3.0	2.5	021	30	3.4	2.6	064	30	2.9	2.5	040				
0.15 a. g.	27	3.7	3.3	079	30	4.2	4.0	068	30	4.8	4.6	083	29	7.1	6.2	026	28	6.0	5.5	062	28	7.2	6.5	047				
0.3 a. m. s. l.	27	4.1	3.7	085	30	4.3	4.1	069	30	4.9	4.7	090	29	8.0	7.2	028	28	6.4	5.9	059	28	8.2	7.5	047				
0.6 "	27	4.1	3.3	084	30	3.5	3.2	072	30	4.2	3.6	095	29	8.8	7.7	036	28	7.7	7.1	054	28	10.2	9.4	047				
0.9 "	27	3.7	2.6	082	30	2.4	1.4	080	30	3.2	2.1	100	28	9.0	7.9	043	27	8.1	7.3	049	28	9.2	8.3	047				
1.5 "	27	3.3	1.7	083	29	2.8	1.4	166	30	2.4	0.4	147	26	6.8	5.3	047	25	7.4	6.4	0.7	27	6.6	5.2	046				
2.1 "	26	3.4	2.0	094	29	3.9	2.0	190	28	3.0	0.1	197	24	6.5	5.1	057	24	8.6	5.4	062	26	6.1	4.8	066				
3.0 "	22	2.6	0.8	350	29	3.7	1.1	268	27	3.8	0.5	261	20	6.1	4.7	082	22	6.3	4.7	082	21	6.2	4.8	083				
3.6 "	16	7.6	6.4	280	18	7.5	4.7	282	17	7.2	5.3	269	11	5.6	4.7	104	19	5.8	4.7	086	17	5.7	5.0	091				
4.5 "	15	17.7	17.5	272	7	15.7	14.1	272	4	14.4	13.8	273	6	5.1	4.7	089	14	5.9	5.0	091	6	4.7	4.3	077				
5.4 "	10	18.5	18.3	271	4	20.8	20.7	277	2	17.5	15.4	301	2	5.9	5.4	096	12	6.4	5.5	090	2	5.7	5.5	053				
6.0 "	5	17.5	17.1	280	1	17.5	17.5	270	1	19.0	19.0	300	1	4.6	4.6	145	11	6.4	5.7	079	2	7.5	7.5	060				
7.2 "	1	14.9	14.9	290													6	7.5	6.6	082								
9.0 "	1	16.0	16.0	275													4	6.4	4.3	126								

Station	TRIVANDRUM												UDAIPUR											
	0530*				1130				1730*				2330				0530			1730				
Time in I. S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	1.2	0.6	013	30	1.5	0.6	284	30	1.7	1.1	260	30	1.5	0.9	046	30	0.1	0.1	282	30	0.5	0.1	178
0.15 a. g.	30	3.0	1.1	358	29	2.6	0.7	281	30	3.0	2.0	267	27	3.0	0.2	233	29	2.3	1.7	016	30	2.4	0.9	109
0.3 a. m. s. l.	30	2.9	0.9	358	29	2.6	0.7	259	30	3.0	1.6	276	27	3.0	0.6	249								
0.6 "	30	2.8	0.3	044	29	2.3	0.1	020	30	3.2	0.8	302	27	2.5	0.1	081								
0.9 "	30	3.3	1.3	070	27	2.7	1.5	051	30	3.3	1.1	055	26	3.4	1.6	074	29	3.1	1.4	063	30	2.5	0.7	110
1.5 "	30	4.2	2.3	072	21	4.6	3.2	066	30	4.9	2.7	078	25	4.8	3.3	069	29	4.3	1.9	186	30	2.9	0.1	271
2.1 "	30	4.0	2.7	088	15	4.4	2.7	088	30	4.7	2.4	067	24	4.5	3.1	074	29	5.1	3.1	229	30	3.8	1.4	264
3.0 "	30	5.1	2.6	093	13	5.0	3.2	095	30	5.6	3.1	083	18	5.2	2.7	067	28	6.7	5.0	257	29	6.4	4.8	266
3.6 "	30	6.0	3.5	095	11	5.4	3.2	099	30	6.3	3.8	074	14	6.4	3.7	091	27	8.7	7.1	260	29	9.1	8.0	262
4.5 "	30	6.3	4.5	089	10	6.0	5.6	088	30	6.7	4.6	084	12	7.3	4.1	078	14	9.8	9.1	268	28	10.8	10.2	267
5.4 "	30	6.8	4.7	090	5	8.6	8.2	071	30	7.1	4.9	082	4	9.1	8.8	079	7	12.9	12.1	268	24	13.7	12.6	268
6.0 "	30	7.3	5.5	085	5	7.0	6.5	075	29	7.3	5.2	089	2	6.7	6.4	085	5	16.2	15.8	269	24	16.6	16.0	268
7.2 "	30	7.9	6.8	100	3	8.6	8.2	077	29	8.2	7.0	100									21	19.6	19.1	271
9.0 "	29	8.4	6.9	114	2	5.4	5.1	077	25	9.4	9.1	097									14	28.8	28.0	267

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 km. above mean sea level
November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Station	UDAIPUR				VENGURLA								VERAVAL											
	2330				0530				1730				2330				0530*				1130			
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	0.1	0.1	270	30	0.8	0.8	014	30	1.9	1.5	268	30	0.8	0.7	353	30	3.5	3.3	024	30	3.0	1.3	049
0.15 a. g.	30	2.6	1.3	045	30	4.4	3.7	073	29	3.4	2.3	289	30	4.2	3.7	020	30	7.3	6.2	037	30	3.2	2.4	057
0.3 a. m. s. l.					30	4.9	3.9	082	29	3.4	2.0	310	30	4.7	4.0	018	30	6.4	5.1	036	30	3.7	2.8	054
0.6 "					30	5.8	4.6	092	29	3.3	1.7	003	30	4.8	3.7	035	30	4.8	2.7	048	30	3.8	2.8	055
0.9 "	30	3.8	2.0	068	30	6.0	5.1	098	29	4.2	2.9	052	30	4.8	3.8	062	30	3.9	1.6	066	30	3.5	2.1	050
1.5 "	30	4.3	2.1	118	30	5.6	4.6	098	28	6.4	5.6	076	29	6.5	5.9	091	30	4.1	1.8	169	30	3.7	0.8	129
2.1 "	30	4.2	1.8	171	29	5.6	4.6	100	25	7.6	6.8	075	27	7.7	7.1	095	30	4.9	2.0	207	30	3.7	1.2	230
3.0 "	29	6.4	4.9	279	27	4.7	3.5	091	22	5.7	5.0	075	24	6.1	5.3	086	30	5.7	2.8	255	30	5.3	2.4	254
3.6 "	29	8.0	6.8	261	2	5.4	4.1	138	20	5.3	4.5	074	7	4.9	3.9	086	29	6.4	4.5	256	29	5.8	3.2	255
4.5 "	22	10.8	9.4	266					18	4.7	3.4	067	1	3.1	3.1	090	27	8.2	5.5	258	29	7.5	5.8	260
5.4 "	12	14.0	12.5	261					15	3.0	2.2	009					27	10.0	7.6	261	29	9.3	6.5	267
6.0 "	7	15.0	14.2	271					15	3.7	1.8	333					26	11.3	9.7	261	29	10.0	7.2	272
7.2 "	3	18.4	17.5	264					12	5.3	4.0	241					25	15.3	13.7	257	25	12.4	10.2	268
9.0 "									2	6.4	6.4	226					16	19.1	16.2	262	13	17.7	16.8	258

Station	VERAVAL				VISAKHAPATNAM																			
	1730*				2330				0530				1730				2330							
Time in I.S.T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	30	4.3	2.2	223	30	1.9	1.6	012	30	0.3	0.3	009	30	3.7	3.7	091	30	0.8	0.6	06				
0.15 a. g.	29	5.7	1.7	238	30	5.7	3.7	015	30	2.9	2.7	044	30	5.0	4.9	083	30	3.4	3.3	068				
0.3 a. m. s. l.	29	4.2	0.8	254	30	5.8	3.4	024	30	3.6	3.4	056	30	5.1	5.0	074	30	4.1	4.0	073				
0.6 "	29	3.4	1.7	050	30	4.9	3.0	049	30	4.3	4.1	058	30	5.2	4.8	045	30	4.6	4.4	069				
0.9 "	29	3.7	2.0	046	30	4.7	3.3	070	30	4.6	4.3	052	30	5.3	4.9	035	30	4.4	4.0	052				
1.5 "	29	4.4	2.1	033	30	4.5	2.6	090	30	4.6	3.4	048	29	5.8	4.5	021	30	4.7	3.7	046				
2.1 "	29	5.0	1.9	334	30	5.2	1.2	094	30	4.6	3.0	040	29	5.1	3.5	024	28	4.7	3.4	041				
3.0 "	29	5.8	2.9	269	30	4.9	1.2	247	29	4.7	2.0	042	27	4.9	2.7	030	25	4.5	2.7	063				
3.6 "	29	6.8	4.5	264	18	5.6	2.8	256	18	4.8	1.9	348	27	4.5	1.4	057	14	3.2	1.9	108				
4.5 "	24	8.6	6.3	273	4	9.1	4.5	271	6	4.0	2.1	336	24	3.9	0.5	011	4	2.1	0.9	122				
5.4 "	24	10.1	8.1	265					2	1.3	1.1	038	22	4.5	1.6	280	1	8.7	8.7	160				
6.0 "	24	10.8	9.3	266					2	2.3	1.4	325	19	4.8	2.3	293								
7.2 "	29	15.0	13.7	265									12	5.6	3.0	283								
9.0 "	20	21.1	20.3	250									3	9.1	5.5	217								

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D
	AGARTALA					BANGALORE					GANNAVARAM					MADRAS			
	0530 hrs.					1730 hrs.					1730 hrs.					0530 hrs.*			
10.5	5	13.9	13.5	265	10.5	8	8.6	4.0	157						10.5	28	8.7	5.9	120
12.0	2	6.4	6.3	285	12.0	7	12.8	8.7	202	10.5	7	9.8	5.8	250	12.0	25	11.8	7.9	131
14.1	1	12.4	12.4	240	14.1	5	8.9	5.7	169	12.0	3	12.6	4.0	271	14.1	14	11.7	9.5	132
16.2	1	5.7	5.7	225	16.2	2	12.1	7.2	268						16.2	10	6.0	3.3	120
															18.0	1	4.6	4.6	040
	AMBALA					BEGUMPET					GAUHATI					1730 hrs.*			
	1730 hrs.					1730 hrs.					0530 hrs.*					10.5			
10.5	1	50.9	50.9	260	10.5	4	15.2	14.1	237	10.5	18	44.3	41.0	270	12.0	18	13.4	11.4	147
					12.0	3	16.1	14.6	235	12.0	11	44.0	43.6	270	14.1	14	12.7	10.1	142
					14.1	1	19.0	19.0	205	14.1	4	41.5	41.3	267	16.2	9	10.1	8.1	110
	AMRITSAR					BIKANER					1730 hrs.*					MINICOY			
	0530 hrs.*					1730 hrs.					1730 hrs.*					1730 hrs.			
10.5	17	39.3	37.7	260	10.5	1	32.4	32.4	267	10.5	12	45.9	45.4	268	10.5	6	13.7	12.9	110
12.0	7	49.2	48.1	261						12.0	9	45.8	45.7	268					
	1730 hrs.*					COCHIN					1730 hrs.*					NAGPUR			
10.5	21	40.9	40.4	266	10.5	2	7.2	6.9	101		1730 hrs.					0530 hrs.*			
12.0	16	46.8	43.0	261	12.0	1	17.0	17.0	120		1730 hrs.				10.5	23	21.1	20.1	250
14.1	6	51.0	44.5	250	14.1	1	8.2	8.2	135		1730 hrs.				12.0	20	24.6	23.3	244
16.2	2	38.8	38.8	254	16.2	1	8.7	8.7	120		1730 hrs.				14.1	15	20.2	18.7	237
18.0	1	49.4	49.4	270							GOPALPUR				16.2	7	17.5	15.4	255
	ANANTPUR					DUM DUM					0530 hrs.				18.0	1	10.3	10.3	280
	0530 hrs.					0530 hrs.*					10.5					1130 hrs.			
10.5	6	11.7	9.7	196	10.5	27	21.6	20.9	262	10.5	5	10.1	7.7	266	10.5	11	26.1	24.6	249
12.0	2	8.7	7.8	232	12.0	24	20.2	19.2	255	12.0	1	6.2	6.2	055	12.0	5	28.2	26.9	249
	1730 hrs.				12.0	16	20.3	14.7	249	14.1	16	20.3	14.7	249	14.1	1	6.2	6.2	200
10.5	7	6.7	5.7	263	14.1	7	15.8	15.6	257	16.2	7	15.8	15.6	257	16.2	1	3.1	3.1	235
12.0	3	10.1	10.1	179	16.2	1	8.2	8.2	220		JAGDALPUR					1730 hrs.*			
14.1	1	4.6	4.6	150	18.0	1	8.2	8.2	220	10.5	2	5.9	5.9	268	10.5	26	21.4	19.8	250
	BAMRAULI					1130 hrs.				12.0	1	11.3	11.3	230	12.0	22	21.8	19.0	240
	0530 hrs.*				10.5	2	24.2	24.2	265		JAIPUR				14.1	17	17.1	15.5	237
10.5	18	33.7	33.1	262	12.0	1	27.8	27.8	276		1730 hrs.				16.2	13	12.4	11.1	248
12.0	8	31.3	30.3	261						10.5	2	41.1	40.8	266	18.0	7	9.8	8.2	278
	1130 hrs.				10.5	25	18.9	18.3	260	12.0	1	58.1	58.1	260	21.0	2	11.1	11.1	323
10.5	1	41.7	41.7	285	12.0	25	20.8	20.5	255		JODHPUR					NEW DELHI			
	1730 hrs.*				14.1	20	19.1	18.8	252	10.5	13	38.0	37.7	260	10.5	26	43.6	42.6	262
10.5	23	34.4	33.7	260	16.2	10	15.2	14.5	249	12.0	10	44.0	43.4	257	12.0	21	50.8	49.3	264
12.5	15	37.1	36.7	256	18.0	4	11.7	11.5	258	10.5	6	35.9	33.2	268	14.1	3	40.3	39.4	247
	BANGLORE				21.0	2	10.3	8.4	283	12.0	5	19.7	19.7	250	16.2	1	36.5	36.5	250
	0530 hrs.					GADAG				14.1	1730 hrs.*				18.0	1	43.7	43.7	270
10.5	1	12.4	12.4	250	10.5	3	11.3	10.8	220	10.5	6	35.9	33.2	268	10.5	3	33.6	31.7	262
12.0	1	11.8	11.8	265	12.0	2	17.2	16.6	227	12.0	1	64.8	64.8	240	12.0	1	41.7	41.7	260

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above mean sea level

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D		
		1730 hrs.*				12.0	13	20.0	16.3	231			1130 hrs.			
10.5	24	39.2	38.4	265	14.1	8	19.6	17.8	226	10.5	3	22.0	21.6	250		
12.0	20	48.4	47.8	266	16.2	3	13.9	13.9	250	12.0	1	19.0	18.9	235		
14.1	7	44.3	44.1	264	18.0	2	8.0	6.9	257			1730 hrs.				
		POONA				12.0	1	3.6	3.6	290	10.5	13	22.0	21.6	252	
		1730 hrs.									12.0	14	26.5	24.8	246	
10.5	10	16.6	15.9	243			TEZPUR				14.1	6	29.0	28.3	245	
12.0	6	19.0	16.7	217			0530 hrs.				16.2	2	14.7	11.9	238	
14.1	2	13.6	10.9	227	10.5	1	20.1	20.1	270	18.0	1	10.8	10.8	260		
		PORT BLAIR				12.0	1	21.6	21.6	260			VISAKHAPATNAM			
		0530 hrs.*				14.1	1	23.2	23.2	275			1730 hrs.*			
10.5	17	10.5	6.4	112	16.2	1	21.1	21.1	265	15.1	1	7.2	7.2	235		
12.0	8	7.4	2.6	152			TIRUCHIRAPALLI									
14.1	3	8.6	8.4	129			1730 hrs.									
16.2	2	10.0	8.3	126	10.5	2	6.7	6.1	294							
		PORT BLAIR				12.0	1	7.2	7.2	240						
		0530 hrs.*						TRIVANDRUM								
18.0	2	20.6	19.7	122			0530 hrs.*									
21.0	1	24.2	24.2	080	10.5	27	12.1	11.1	111							
		1130 hrs.				12.0	26	15.7	13.8	112						
10.5	1	4.6	4.6	250	14.1	15	11.7	9.9	113							
		1730 hrs.*				16.2	4	12.2	12.1	091						
10.5	20	9.3	6.9	103	18.0	1	8.7	8.7	210							
12.0	14	9.3	7.8	130			1730 hrs.*									
14.1	9	14.8	11.5	125	10.5	24	12.7	11.3	112							
16.2	3	15.4	12.8	110	12.0	18	15.7	12.8	112							
18.0	1	15.4	15.4	100	14.1	10	17.0	13.7	101							
		SANTA CRUZ				16.2	4	11.0	9.1	104						
		0530 hrs.*				18.0	3	6.3	4.5	118						
10.5	18	16.6	14.9	235			UDAIPUR									
12.0	14	22.1	19.0	230			0530 hrs.*									
14.1	8	20.1	18.9	246	10.5	7	30.6	30.3	270							
16.2	3	16.3	15.7	241	12.0	5	39.0	38.8	268							
18.0	2	17.2	17.2	245	14.1	3	37.0	37.0	269							
21.0	1	16.0	16.0	280	16.2	2	24.2	24.2	255							
24.0	1	19.6	19.6	260	18.0	1	21.1	21.1	230							
		1130 hrs.						VERAVAL								
10.5	8	14.2	12.6	234			0530 hrs.*									
12.0	4	14.6	13.9	228	10.5	12	22.3	22.3	257							
14.1	3	14.9	13.1	218	12.0	8	22.6	22.3	249							
		1730 hrs.*				14.1	7	21.7	20.8	258						
10.5	19	16.9	15.7	239	16.2	1	6.7	6.7	260							

RADIOSONDE DATA

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I.M.D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

S. No.	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October 1944	00 and 12	
2	Amritsar	Clock type	21st June 1957	00 and 12	
3	Bombay	Clock type	7th September 1954	00 and 12	
4	Calcutta	Clock type	13th December 1946	00 and 12	Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July 1955	00 and 12	
6	Jodhpur	Clock type	17th April 1946	00 and 12	
7	Madras	Fan type	29th June 1946	00 and 12	
8	Nagpur	Fan type	1st October 1946	00 and 12	
9	New Delhi	Clock type	3rd December 1949	00 and 12	
10	Port Blair	Fan type	4th December 1949	00 and 12	
11	Trivandrum	Fan type	1st July 1947	00 and 12	
12	Veraval	Fan type	3rd October 1944	00 and 12	
13	Visakhapatnam	Fan type	8th December 1946	00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (10.9 mb.)						NAGPUR (978 mb.)						NEW DELHI (990 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	297.1	299	294	295.0	30	311	289.3	295	284	286.8	30	210	287.0	293	282	283.4
1000	30	093	..	..	..	..	30	121	..	..	..	..	30	126	..	..	..	..
900	30	1010	292.0	296	287	287.8	30	1029	292.9	297	289	281.4	30	1026	290.5	295	287	274.4
850	30	1501	289.8	293	286	283.8	30	1520	289.7	293	287	278.5	30	1512	287.5	293	284	270.0
800	30	2017	287.8	290	285	279.8	30	2033	286.8	291	283	275.0	30	2021	284.5	289	281	266.7
700	30	3139	282.5	285	281	272.4	30	3151	282.0	286	278	266.9	30	3125	278.2	281	274	251.0
600	30	4403	275.4	279	270	265.3	30	4411	275.5	279	273	257.5	30	4369	274.5	277	268	..
500	29	5854	266.5	271	261	..	30	5861	267.2	273	263	..	30	5795	262.3	269	257	..
400	29	7566	256.2	260	249	..	29	7570	255.8	261	249	..	30	7475	250.6	256	245	..
300	29	9667	241.2	249	235	..	26	9662	240.4	246	231	..	29	9535	237.7	243	231	..
250	27	10935	231.6	240	225	..	24	10920	230.7	238	221	..	28	10779	229.4	234	223	..
200	27	12414	220.1	229	215	..	22	12398	220.0	230	210	..	26	12250	220.4	225	215	..
175	21	13237	214.0	224	208	..	22	13250	214.4	225	207	..	25	13105	216.2	220	209	..
150	17	14220	207.9	219	202	..	20	14198	209.2	221	202	..	22	14067	211.4	211	205	..
125	14	15298	202.6	212	197	..	16	15297	204.7	215	197	..	17	15170	207.8	212	201	..
100	9	16628	200.0	207	196	..	11	16618	201.5	214	196	..	13	16520	204.9	209	200	..
80	..	..	..	..	..	..	6	17953	202.3	207	195	..	7	17837	204.0	205	200	..
PORT BLAIR (1001 mb.)						TRIVANDRUM (1002 mb.)						VERAVAL (1011 mb.)						
Surface	29	079	297.9	300	296	296.3	30	064	297.7	299	297	295.4	30	008	294.2	298	291	285.1
1000	29	089	..	..	..	..	30	077	..	..	..	..	30	104	..	..	..	..
900	29	1010	293.1	295	290	290.9	30	998	293.0	295	290	287.8	30	1023	293.5	296	290	282.3
850	29	1503	290.6	293	287	287.1	30	1490	290.3	294	287	284.7	30	1514	290.0	292	289	278.9
800	29	2020	287.9	291	282	284.2	30	2007	288.0	291	285	281.8	30	2025	286.9	291	282	274.7
700	29	3140	282.6	287	277	276.3	30	3128	282.0	287	279	275.5	30	3143	281.5	289	277	264.4
600	29	4405	275.5	281	271	269.4	30	4390	275.1	279	272	275.1	30	4401	274.5	279	268	259.2
500	29	5858	268.2	275	265	..	30	5840	267.2	274	261	..	30	5846	265.0	270	258	..
400	29	7579	257.5	260	249	..	30	7552	255.9	261	249	..	28	7547	251.8	263	249	..
300	25	9676	241.4	246	235	..	29	9543	240.7	246	232	..	21	9638	240.4	247	234	..
250	15	10944	231.6	238	227	..	28	10901	230.1	237	223	..	16	10960	231.4	241	223	..
200	8	12430	221.3	227	217	..	28	12370	218.6	227	213	..	12	12405	220.7	228	211	..
175	5	13322	215.0	218	210	..	27	13197	212.4	219	207	..	8	13275	215.7	221	210	..
150	..	..	..	..	..	..	26	14155	205.5	213	199	..	7	14228	208.9	215	201	..
125	..	..	..	..	..	..	22	15268	201.3	207	197	..	6	15340	205.8	211	198	..
100	..	..	..	..	..	..	13	16594	200.9	209	195	..	..	..	..	..	..	..
80	..	..	..	..	..	..	11	17926	204.6	214	197	..	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

November 1939 (Kartika 10—Agrahayana 9, 1880 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (995 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	295.6	299	291	291.1
1000	30	112	..	..	..	..
900	30	1028	291.3	296	288	285.2
850	30	1518	289.3	294	286	279.6
800	30	2034	288.4	291	285	274.3
700	30	3157	282.8	286	280	268.5
600	30	4424	276.0	279	274	261.2
500	30	5880	256.4	275	263	..
400	27	7596	256.9	263	249	..
300	21	9712	242.0	249	238	..
250	17	10984	231.2	238	226	..
200	15	12463	219.8	226	211	..
175	12	13259	213.0	220	205	..
150	10	14206	206.0	213	199	..
125	8	15263	200.5	208	195	..
100	6	16610	200.2	205	195	..
80	..	..	..	..	..	..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

Standard Pressure Surface mbs.	MADRAS Surf. Pr. (1008 mb.)						NAGPUR (975 mb.)						NEW DELHI (989 mb.)					
	No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A				No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point			Mean	Max.	Min.	Dew point
Surface	30	015	300.4	302	297	294.8	30	311	301.2	306	298	289.3	30	210	296.9	302	294	284.4
1000	30	089	..	..	..	..	30	099	..	..	..	..	30	111	..	..	..	..
900	30	1010	293.1	297	290	288.6	30	1027	295.3	300	290	283.6	30	1025	292.4	298	289	278.2
850	30	1502	290.6	294	287	284.3	30	1521	291.2	296	288	281.2	30	1511	288.1	295	285	272.9
800	30	2019	288.2	292	285	280.5	30	2037	288.0	292	284	276.3	30	2026	285.7	291	281	268.0
700	30	3142	282.8	285	279	273.6	30	3157	283.0	286	278	266.0	30	3133	279.5	283	276	257.3
600	30	4409	276.1	279	271	266.1	30	4423	276.1	278	273	258.5	30	4383	272.5	277	268	245.6
500	29	5866	267.6	271	265	..	30	5876	267.1	271	262	..	30	5814	262.6	266	259	..
400	28	7585	256.4	261	253	..	30	7587	256.0	259	251	..	30	7496	251.2	254	248	..
300	27	9705	241.9	247	235	..	29	9687	241.4	246	236	..	30	9555	237.5	243	232	..
250	26	10961	232.7	238	227	..	27	10950	231.1	238	223	..	28	10805	229.9	238	223	..
200	24	12439	219.9	227	215	..	25	12427	219.4	228	212	..	24	12279	221.4	227	215	..
175	20	13296	215.3	222	210	..	24	13267	213.8	221	208	..	22	13133	216.3	221	210	..
150	18	14257	208.6	215	203	..	23	14239	207.6	214	201	..	22	14114	212.5	217	207	..
125	16	15374	203.9	211	197	..	22	15335	202.8	210	195	..	15	15224	207.4	214	200	..
100	12	16701	198.8	204	195	..	20	16659	199.9	206	195	..	12	16569	204.3	209	198	..
80							18	17966	201.6	208	193	..	7	17973	205.6	214	201	..
			PORT BLAIR (1050 mb.)				TRIVANDRUM (1001 mb.)				VERAVAL (1010 mb.)							
Surface	30	079	300.0	301	298	296.4	30	064	300.8	303	297	296.1	30	008	300.9	302	300	294.9
1000	30	083	..	..	..	..	30	072	..	..	..	..	29	096	..	..	..	..
900	29	1004	293.7	298	290	292.1	30	997	294.5	297	291	289.5	29	1022	294.8	298	291	283.3
850	29	1497	291.2	295	288	288.7	30	1491	291.4	294	288	286.5	29	1515	291.4	298	288	281.2
800	29	2016	288.7	294	285	285.5	30	2010	288.4	292	284	283.4	29	2033	287.6	294	282	278.6
700	29	3138	283.0	287	279	277.5	30	3133	282.8	289	279	276.8	29	3152	281.7	288	276	267.4
600	29	4409	276.8	283	272	269.7	30	4399	276.1	280	272	270.1	29	4412	275.1	281	270	254.7
500	28	5865	268.7	275	262	..	30	5857	268.5	273	263	..	27	5859	265.9	272	261	..
400	28	7588	257.9	265	253	..	29	7584	258.7	263	253	..	27	7562	254.9	260	250	..
300	24	9705	242.8	253	235	..	27	9706	244.0	251	237	..	21	9612	239.3	247	233	..
250	20	10977	232.7	239	225	..	27	10985	233.9	244	226	..	18	10900	230.5	239	222	..
200	15	12446	220.1	227	210	..	23	12458	221.3	230	215	..	17	12378	219.2	225	212	..
175	10	13281	214.6	223	203	..	20	13310	215.3	225	208	..	10	13191	212.8	221	203	..
150	9	14256	207.9	217	195	..	18	14254	207.7	216	200	..	10	14143	208.1	218	197	..
125	6	15420	205.8	210	193	..	16	15332	200.8	209	195	..	8	15303	202.9	211	195	..
100							13	16625	198.8	206	193	..	6	16599	201.3	208	193	..
80							8	18000	203.6	212	195	..						..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

November 1959 (Kartika 10—Agrahayana 9, 1881 Saka)

		VISAKHAPATNAM Surf. Pr. (1006 mb.)				
Standard Pressure Surface mbs.	No. of obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	30	048	299·6	301	298	291·7
1000	29	103	..	..	..	..
900	29	1025	292·9	296	289	286·0
850	29	1517	290·7	293	288	279·7
800	29	2034	288·6	292	285	274·2
700	29	3158	283·5	287	280	267·9
600	29	4427	276·7	280	273	260·5
500	29	5886	268·1	272	264	..
400	29	7605	256·7	262	251	..
300	23	9711	242·1	251	236	..
250	21	10981	232·4	240	225	..
200	19	12468	221·8	233	213	..
175	16	13305	215·9	224	207	..
150	14	14287	209·6	217	198	..
125	12	15403	204·5	212	195	..
100	5	16803	200·2	207	195	..
80						

NOTE.—Number of observations refer to those of dynamic height.

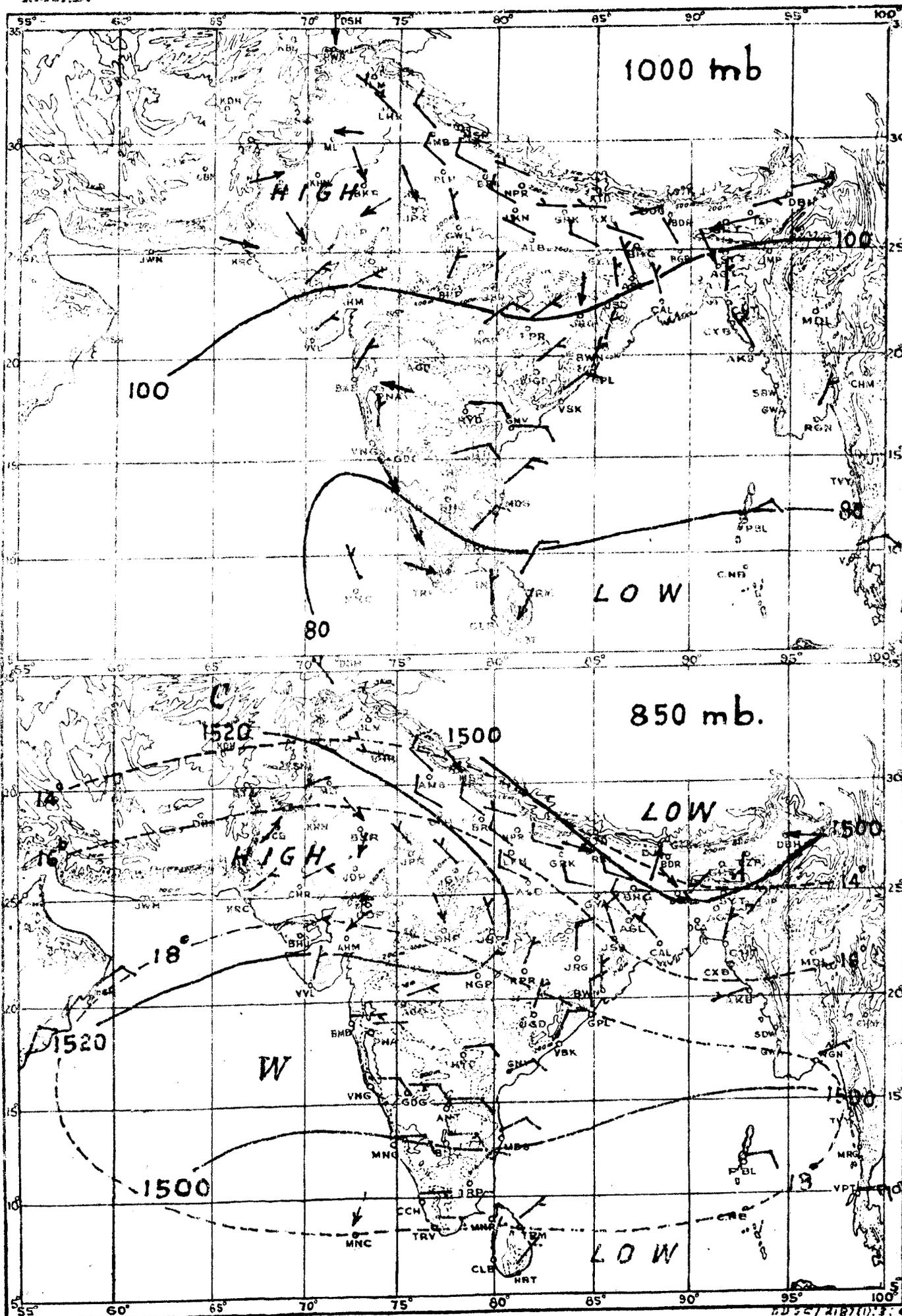
Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.

Means are not worked out for less than five observations at standard pressure surfaces.

MONTHLY MEAN CONSTANT PRESSURE CHARTS NOVEMBER 1959

I. Met. D.

Plate I



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

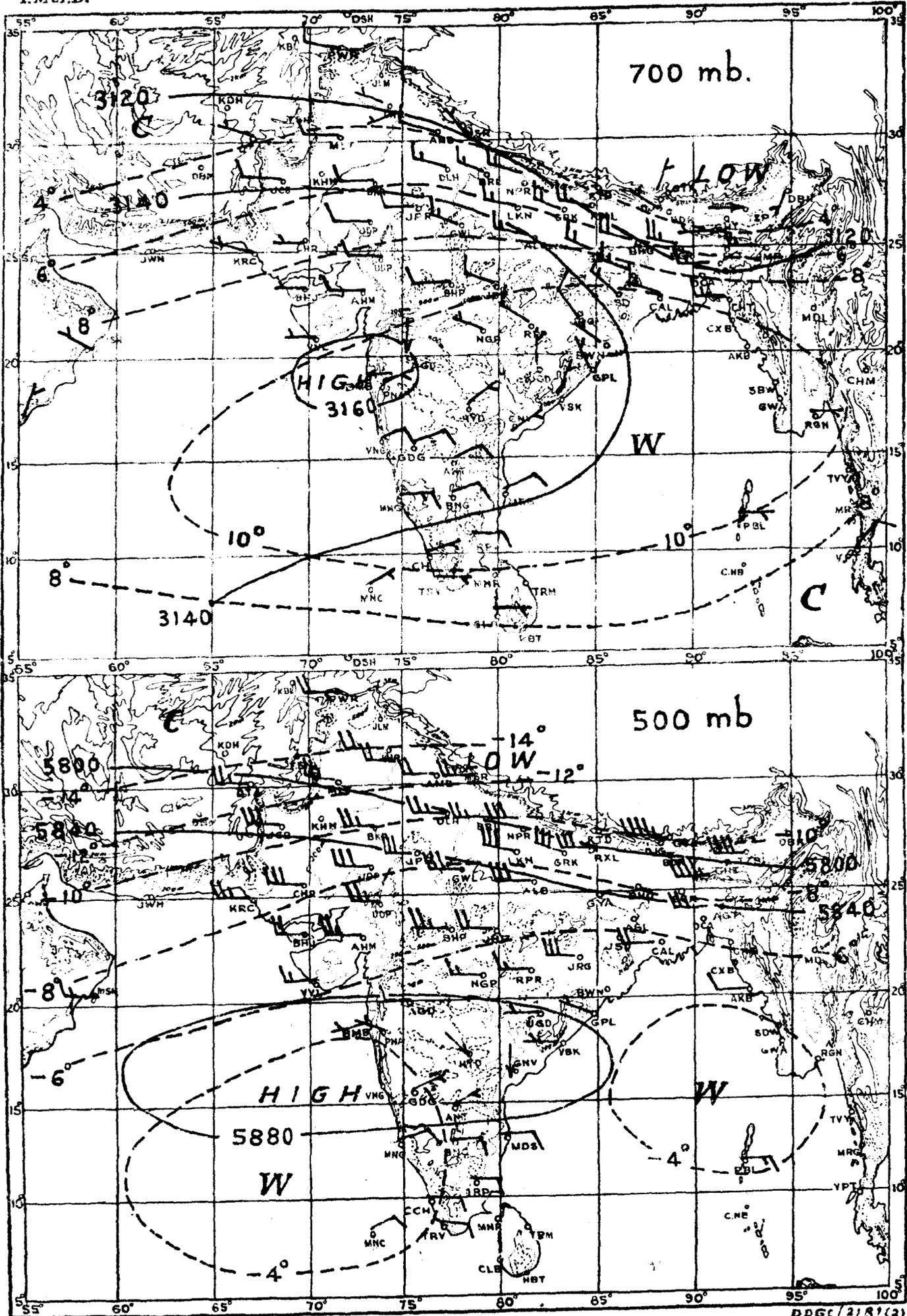
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

MONTHLY MEAN CONSTANT PRESSURE CHARTS

NOVEMBER 1959

Plate II

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

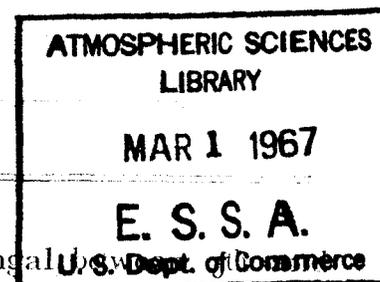
----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

INDIA WEATHER REVIEW, 1959

Monthly Weather Report

DECEMBER

Published by authority of the Government of India



Chief features :—

(1) Formation and movement of a depression in the Bay of Bengal on 8th December, and

(2) Comparative feeble western disturbances in northwest India.

Last month's depression in the southeast Arabian sea continued to move in a westerly direction. It lay with its central region near Lat. 8.5°N and Long. 67.0°E on the morning of 2nd December and probably as a deep depression with centre near Lat. 8.5°N and Long. 63.0°E on 4th morning. It finally moved away west of Lat 60°E by the 6th morning. Under its influence, south Peninsula received rain between 1st and 3rd. Fairly widespread rain occurred in the Arabian Sea Islands, Kerala and the Madras State on 1st December and in coastal Mysore on 1st and 2nd. Pampan reported 7 cms. of rain and Ootacamund and Kallakurichi 6 cms each on 1st and Kodaikanal 7 cms on 2nd.

A low pressure wave moved into the south Andaman sea on 2nd December. It moved westwards and concentrated into a depression in the southeast Bay of Bengal by 5th morning with centre near Lat. 10°N , Long. 90°E . Fairly widespread or local rain occurred in the Bay Islands from 3rd to 6th. Some noteworthy amounts of rainfall were : Kondul 8 cms on 3rd, Car Nicobar 8 cms on 4th and Mayabander 9 cms on 5th. Moving initially in a northwesterly direction, the depression was centred near Lat. 13.5°N and Long. 82.5°E on 6th morning. Thereafter, it took a westerly course, was centred about 250 kms east of Nellore on 7th morning and moved inland as a low pressure wave by 8th morning. Showers occurred locally in coastal Andhra Pradesh and at a few places in Telangana and the Madras State on 8th.

After the dissipation of the depression, moist easterlies prevailed over Andhra Pradesh and the States of Madras, Mysore and Kerala for a few days. In association with this current, local showers occurred in Telangana on 9th, and in Rayalaseema and the Madras State on 11th. Scattered showers were also reported from coastal Andhra Pradesh between 9th and 11th, from Madras State on 10th and 12th from south Interior Mysore on 9th and 12th and from Kerala on 11th. Coimbatore reported 6 cms of rain on 12th.

In association with the passage of an easterly wave, local showers occurred in the Bay Islands on 17th, in south Madras State on 20th and 21st in Kerala on 21st. Nagapattinam recorded 10 cms of rain on 20th and Trivandrum 6 cms and Kozhikode 5 cms on 21st. Another easterly wave came over the southeast and the adjoining east Central Bay of Bengal on 25th. It gradually moved westwards and became unimportant by 29th. Under its influence, fairly widespread or local showers occurred in the Bay Islands on 25th and 26th and scattered showers in the Madras State on 28th and 29th.

A western disturbance was located over Afghanistan and the adjoining areas of Baluchistan on 2nd December and over the Punjab on 3rd. It moved slowly and crossed Jammu and Kashmir by 6th. Local rain or snow was experienced in Jammu and Kashmir on 6th and scattered rain or snow between 3rd and 5th. A second western disturbance lay over Baluchistan and the adjoining areas of Afghanistan on 15th and over the northern divisions of West Pakistan and the adjoining Punjab (I) and Jammu and Kashmir on 16th. It moved away eastnortheastward through Jammu and Kashmir on 17th, after causing local rain or snow there on that day. A third western disturbance moved away across the extreme north of the country after causing a few light snowfalls in Kashmir on 23rd. Another feeble western disturbance lay over the region extending from Kutch to the Punjab (P) on 28th morning. It moved away across the Punjab Kumaon Hills by the next evening. Scattered light rain or snow was reported from Jammu and Kashmir on 29th.

"Copyright © 1959 by Manager of Publications, Government of India, Delhi-8"

Tabular statement showing the movement of each western disturbance during the month of December 1959 is given below.

Statement showing the movement and activity of Western Disturbances during December 1959

S. No.	Period	Course	Region affected	Nature of precipitation	Period	Remarks
1	3rd-6th	Afghanistan-N.W.F.P. Punjab(P)-Punjab(I)-Kashmir.	Jammu and Kashmir	{ Local rain or snow Scattered rain or snow	6th 3rd and 5th.	
2	16th-17th	Baluchistan-Punjab(P)-Jammu and Kashmir	Jammu and Kashmir	Local rain or snow	17th	
3	22nd-23rd	N.W.F.P.-Jammu and Kashmir	Kashmir	Scattered light snowfall	23rd	
4	28th-29th	Punjab(P) - Northwest Rajasthan-Punjab(I) Northwest Uttar Pradesh.	Jammu and Kashmir	Scattered light rain or snow	29th	

During the first half of the month, night temperatures were generally above normal over most of the country. They were appreciably to markedly above normal in northwest India between 4th and 6th, in Uttar Pradesh on 5th and 6th and again on 15th and 16th, in Maharashtra between 11th and 14th and in west Madhya Pradesh between 12th and 17th. In the wake of the western disturbance which moved away through Jammu and Kashmir on 17th, cold northerly air swept over most parts of north India. Night temperatures became appreciably below normal in Rajasthan between 18th and 21st. Later, the temperatures remained generally below normal in northwest India and also in Saurashtra and Kutch, north Gujarat, Madhya Pradesh and Vidarbha, being appreciably below normal in Madhya Pradesh and Vidarbha between 25th and 27th and in north Gujarat and east Saurashtra on 30th.

The rainfall for the month was in large excess in coastal Mysore, in moderate excess in Kerala and normal in Jammu and Kashmir and north Interior Mysore. It was in slight defect in Rayalaseema, in moderate defect in Orissa and the Madras State and in large defect in the Bay Islands, Assam, Gangetic West Bengal, east Madhya Pradesh, coastal Andhra Pradesh, Telagana, south Interior Mysore and the Arabian Sea Islands. There was no rain over the rest of the country outside Himachal Pradesh.

The mean maximum temperature was above normal in the Bay Islands Assam, West Uttar Pradesh, the Punjab (I), east Rajasthan, east Madhya Pradesh, the Konkan, Maharashtra (including Marathwada) and the Arabian Sea Islands and normal over the rest of the country outside Himachal Pradesh. The mean minimum temperature was above normal in the Bay Islands, Sub-Himalayan West Bengal, Jammu and Kashmir, Gujarat, the Konkan, Maharashtra (including Marathwada) and Interior Mysore State and normal over the rest of the country outside Himachal Pradesh.

The mean relative humidity in the morning was in excess in the Bay Islands, the Punjab(I) and the Arabian Sea Islands, in defect in Assam, Bihar State and Jammu and Kashmir and normal over the rest of the country outside Himachal Pradesh.

The mean cloud amount in the morning was in defect in Assam, Gangetic West Bengal Bihar State, east Uttar Pradesh, the Punjab (I), West Rajasthan and Vidarbha and normal in Sub-Himalayan West Bengal, West Uttar Pradesh, Jammu and Kashmir, Madhya Pradesh, the Konkan, Maharashtra (including Marathwada) and coastal Andhra Pradesh. It was in excess over the rest of the country outside Himachal Pradesh.

Table I contains the divisional and sub-divisional means of rainfall, temperature, relative humidity and cloud amount for the 14 chief political divisions and the 30 sub-divisions. The stations whose observations are used for preparing these means are given in the subsequent tables.

The highest maximum temperature given for any station in the accompanying table is that recorded within the 24 hours ending at 0830 hrs. IST of the date noted in the succeeding column. Similarly the heaviest rainfall in 24 hours for any station denotes the amount recorded during the 24 hours ending at 0830 hrs. IST of the date given in the succeeding column.

POONA 5,

Dated the 1st February, 1960.

C. RAMASWAMY,

for Director General of Observatories.

Errata to M.W.R. for December 1959 (Agrahayans 10-Pausa 10, 1881 Saka)

Station	Hour	Col	For	Read	
<u>Table-I-Division</u>					
535	11. Andhra Pradesh	8	0.5	+0.5	
535	12. Madras State	8	0.9	+0.9	
535	13. Mysore	8	0.9	+0.9	
<u>Table - II</u>					
537	Balasore	7	+0.1	-0.1	
537	Gorakhpur	9	31	5 days	
537	Gorakhpur	26	(Blank)	0	
538	Roorkee	3	+0.5	+0.3	
539	Rajgarh	8	(Not clear)	1.8	
539	Khandwa	16	0.5	-0.5	
539	Sutna	17,18	3.3(b), 1.1(b)	3.3(1), 1.1(1)	
539	Jamnagar	2	26.0	26.9	
539	(Foot note)	-	(b) Mean of 19 days	(1) Mean of 19 days.	
541	Kurnool	15	..	0	
541	Palyamcotai	20(b)	0	"	
541	Nagapattinam	18	8.2	18.2	
541	Coimbatore (Peelamedu) Aerodrome)	27	1	0	
541	Gadag	14	-9.6	..	
542	Mercara	5	20	30	
542	Khijrawan	4	20.4	29.4	
<u>Addenda to Table - II.</u>					
544	Amini Divi	Jan. 16	+0.1	-0.1	
544	Minicoy	March. 7	(Not clear)	-0.1	
<u>Table - III.</u>					
545	Jorhat	2330	2	2300	2330
545	(Foot note)	-	-	(a) Mean of 29 days	(a) Mean of 30 days.
546	Bagdogra	1130	10	19	19.6
548	Gopalpur	2330	10	(Not clear)	17.9
549	Kanpur	0830	24	8	3
550	Kanpur (Aerodrome)	1730	10	9.1	9.7
551	Bilaspur	0830	21	2	1
552	Jammu (Aerodrome)	0530	19	(Blank)	1
553	Jaipur (Sanganer Aerodrome)	2330	9	5.6	5.7
553	Jaipur (Sanganer Aerodrome)	2330	13	1.4	1.3
553	Rajgarh	1730	5	980.5	970.5
554	Chindwara	1730	7	25.7	23.7
554	Sagar	0830	17	0	5
554	Jabalpur	0830	4	(Not clear)	1018.8
554	Raipur	1730	11	35	38
557	Poona	0830	14	0.0	-0.6
557	Poona (Lohagaoon Aerodrome)	0230	4	1014.4	1014.0
562	Mercara	1730	4	1408.5	1508.5
562	Durgapur	0830	22	(Blank)	0
562	Hirakud	1730	7	16.1	16.5
<u>Addenda to Table III</u>					
<u>July</u>					
565	Minicoy	0530	28	(Blank)	0
<u>November</u>					
566	Minicoy	0830	14	+0.1	+1.0

Contd:....2

Errata to M.W.R. for December 1959 (Agrahayana 10-Pausa 10, 1881 Saka)

Station	Month	Col	For	Read
<u>Table III-(A)</u>				
573 Chandbali	-	Temp.	1930	1931
576 Ballia	May	N	1957	1959
578 Agra (Aerodrome)	April	X	42.2	42.9
581 Karnal	Oct.	R	30.3	130.3
581 Ambala	Oct.	R	38.4	138.4
581 Dras	-	Temp.	190 to 1949	1901 to 1949
582 Gurez	March	R	152.2	152.4
583 Kargil	-	Temp.	1911 1949	1911 to 1949
585 Ratlam	Oct.	N	1990	1890
588 Kandla	July	R	47.4	147.4
588 Mandvi	July	R	68.0	168.0
591 Bombay (Colaba)	Oct.	N	22.6	20.6
591 Bombay (Colaba)	Oct.	R	146.8	148.6
591 Poona	Aug.	R	1957	1956
593 Nagpur	Sept.	R	1183	1883
593 Visakhapatnam	Aug.	N	20.1	21.1
594 Calingapatam	June	R	18.2	188.2
594 Ramagundam	April	X	44.1	44.6
595 Ramagundam	Sept.	R	1459	1959
596 Tambram (Aerodrome)	May	R	12.1	22.1
596 Tambram (Aerodrome)	June	R	1859	1959
597 Honavar	Oct.	N	1850	1950
598 Shimoga	Feb	X	3.72	37.2
598 Kozhikode	July	R	1923	1922
598 Alleppey	April	R	(Blank)	1950
600 Kalimpong	March	R	1949	1959
600 Nanital	April	X	26.1	26.2
600 Nanital	April	X	1954	1959
603 Lachen	Nov.	R	0.6	-0.6
607 Mukhim	Nov.	R	1957	1959

Page	Station	Time in I.S.T.	Height in Km.	Entry under column	Existing entry.	Correct Entry.
<u>Table IV</u>						
611	Darjeeling	0830		Approximate times of flights (IST)	0530	0830
613	Baghdogra	1730	0.15 ag	v	6.2	2.6
614	Bajpe	2330	6.0	D	245	243
614	Lower Portion	-	9.0	Height in Km.	9.2	9.0
615	Bareilly	1730	7.2	D	255	256
615	Bhubaneshwar	0530	5.4	D	62	262
615	Bhubaneshwar	1730	6.0	D	220	219
618	Gaya	0530	6.0	D	250	248
618	Gopalpur	0530	3.0	n	8	28

Errata to M.W.R. for December 1959 (Agrahayana- 10-Pausa 10, 1881 Saka)

Page	Station	Time in I.S.T.	Height in Km.	Entry under column	Existing entry	Correct entry
<u>Table IV (Contd.)</u>						
619	Jagdapur	1730	9.0	D	170	169
621	Madras	1130	9.0	D	224	234
621	Minicoy	0530	0.15 ag	v	8.1	2.1
621	Mohanbari	0530	9.0	D	330	331
623	Port Blair	1130	Surface	v	4.5	3.0
623	Raxaul	1730	5.4	D	280	278
623	Santa Cruz	1130	Surface	V	2.2	1.4
623	Santa Cruz	1130	Surface	v	1.6	1.0
623	Santa Cruz	2330	Surface	n	21.	31
623	Santa Cruz	2330	Surface	V	2.2	1.5
623	Santa Cruz	2330	Surface	v	1.9	1.3
623	Santa Cruz	2330	5.4	D	27	270
624	Udaipur	1730	7.2	n	8	18
624	Udaipur	1730	7.2	V	.0	25.0
626	Amritsar	1730	10.5	V	47.6	46.6
626	Cochin	1730	16.2	D	105	106
626	Dum Dum	1730	21.0	D	200	260
626	Madras	0530	120.0	v	7.9	7.0
627	Vengurla	0530		Time in IST	0530*	0530

RADIOSONDE DATA

629	Allahabad	00 GMT	175 mb	Ht. gpm	13 85	13185
630	Madras	00 GMT	250 mb	Ht. gpm.	0936	10936
630	Nagpur	00 GMT	800 mb	Ht. gpm.	2 36	2036
630	Port Blair	00 GMT	175 mb	Ht. gpm.	13 51	13251
630	Trivandrum	00 GMT	850 mb	Mean	28 .8	289.8
630	Trivandrum	00 GMT	800 mb	Dew point	2 9.1	279.1
631	Visakhapatnam	00 GMT	200 mb	Maximum	232	229
633	Madras	12 GMT	300 mb	no. of Obs.	25	27
633	Veraval	12 GMT	125 mb	Ht. gpm.	12563	15269

TABLE I—DIVISIONAL AND SUB-DIVISIONAL MEANS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C.	Mean minimum temperature °C.	Relative humidity %		Cloud		1	Rainfall (millimetres)	Percentage of normal	Mean maximum temperature °C.	Mean minimum temperature °C.	Relative humidity %		Cloud	
					0830 hrs. IST.	1330 hrs. IST.	0830 hrs. IST.	1330 hrs. IST.						0830 hrs. IST.	1330 hrs. IST.	0830 hrs. IST.	1330 hrs. IST.
Division									Division—contd.								
1. Assam (Including Manipur, Tripura).	4.0 -4.2	49	25.3 +1.4	12.4 +0.8	83 -6	73	1.9 -0.7	1.5	3. Rajasthan	0 -4.3	0	26.1 +0.9	9.1 +0.3	59 +1	34	1.5 0	2.1
2. West Bengal	0.4 -3.5	10	25.3 -0.3	13.3 +0.7	71 -2	60	0.8 -0.5	1.0	9. Madhya Pradesh	0.6 -7.6	7	26.7 +1.0	10.1 +0.4	59 -5	39	1.4 -0.1	1.8
3. Orissa	3.6 -1.8	67	26.8 -0.1	14.0 -0.3	70 -2	54	2.2 +0.6	3.1	10. Bombay	0 -4.6	0	30.5 +1.1	15.6 +1.3	59 -2	42	1.5 0	2.0
4. Bihar	0 -4.7	0	24.9 +0.6	10.4 -0.1	67 -7	58	0.8 -0.3	0.9	11. Andhra Pradesh	7.6 -8.1	48	29.1 +0.3	17.5 +0.5	73 +1	54	3.0 0.5	3.2
5. Uttar Pradesh	0 -10.0	0	24.6 +1.0	8.7 +0.6	70 -4	52	1.0 -0.3	1.5	12. Madras State	78.1 -38.5	67	28.7 -0.1	20.8 +0.5	82 +1	68	4.8 0.9	5.1
6. Punjab (India) (Including Himachal Pradesh and Delhi)*	0 -14.3	0	23.9 +1.3	7.1 +0.6	77 +6	53	1.5 +0.5	1.9	13. Mysore	7.2 -1.2	86	29.3 +0.6	17.4 1.1	69 +2	45	3.3 0.9	3.8
7. Jammu and Kashmir.	34.3 -3.5	91	6.2 +0.8	-5.3 +1.3	65 -9	55	4.4 -0.3	3.3	14. Kerala	60.4 +17.4	140	30.9 +0.3	22.8 0	76 -1	68	3.8 +0.8	4.1
Sub-Division									Sub-Division—contd.								
1. Bay Islands	95.7 -105.5	48	30.3 -1.6	24.0 +1.3	77 +6	84	5.2 +1.0	5.5	15. Madhya Pradesh (East)	1.3 -5.7	19	26.5 +1.1	10.1 +0.3	66 -4	43	1.4 -0.2	2.0
2. Assam (Including Manipur, Tripura).	4.0 -4.2	49	25.3 +1.4	12.4 +0.8	83 -6	73	1.9 -0.7	1.5	17. Gujarat	0 -1.4	0	30.7 +0.7	13.9 +1.5	60 -2	35	1.6 +0.4	1.7
3. Sub-Himalayan West Bengal.	0 -3.4	0	24.2 -0.3	12.7 +1.1	77 -1	59	0.9 0.1	0.8	18. Saurashtra and Kutch.	0 -1.8	0	28.5 -0.1	13.9 +0.8	55 1	38	1.9 +0.6	2.2
4. Gangetic West Bengal.	0.6 -3.5	15	25.6 -0.2	13.5 +0.5	70 -2	61	0.8 0.7	1.1	19. Koshan	0 -3.1	0	31.7 +1.7	21.1 +1.9	63 -4	64	1.4 -0.3	1.9
5. Orissa	3.6 -1.8	67	26.8 -0.1	14.0 -0.3	70 -2	54	2.2 -0.6	3.1	20. Malabar State	0 -5.7	0	30.9 +1.6	14.4 +1.4	57 -2	34	1.3 -0.2	2.4
6. Bihar Plateau	0 -5.6	0	25.2 +0.7	9.6 -0.5	61 -8	53	0.8 -0.5	1.0	21. Vaidhalla	0 -10.9	0	29.3 +0.8	12.8 +0.4	59 -1	40	1.2 -0.4	1.3
7. Bihar Plains	0 -3.9	0	24.7 +0.5	11.3 +0.3	72 -6	63	0.8 -0.2	0.7	22. Coastal Andhra Pradesh.	9.9 -13.1	43	28.5 0	18.9 +0.2	76 +2	65	3.2 +0.5	3.7
8. Uttar Pradesh (East).	0 -7.7	0	25.0 +0.9	9.1 +0.5	71 -5	52	0.8 -0.3	1.2	23. Telangana	1.9 -4.1	32	29.1 0.9	14.5 +0.6	66 -2	39	2.4 +0.5	2.2
9. Uttar Pradesh (West).	0 -12.6	0	24.2 +1.1	8.4 +0.6	68 -3	51	1.3 -0.3	1.8	24. Rajasthan	8.6 -2.1	80	30.4 +0.3	18.3 +0.9	74 +1	49	3.1 -0.7	3.1
10. Punjab (India) (Including Himachal Pradesh and Delhi).	0 -14.3	0	23.9 +1.3	7.1 +0.6	77 +6	53	1.5 -0.5	1.9	25. Madras State	78.1 -38.5	67	28.7 -0.1	20.8 +0.5	82 +1	68	4.8 0.9	5.1
11. Himachal Pradesh.	0 ..	..	22.3 ..	3.5 ..	95 ..	54	3.5 ..	1.5	26. Coastal Mysore	15.6 +7.6	195	32.7 +0.5	21.3 -0.1	67 +3	59	3.6 0.9	4.0
12. Jammu and Kashmir.	34.3 -3.5	91	6.2 +0.8	-5.3 +1.3	65 -9	55	4.4 -0.3	3.3	27. Interior Mysore (North).	6.4 0	100	29.6 +0.8	16.5 1.3	64 +1	39	2.5 0.7	3.4
13. Rajasthan (West)	0 -3.2	0	25.9 +0.8	8.8 +0.7	55 -1	31	1.2 -0.5	1.7	28. Interior Mysore (South).	3.0 -8.0	27	27.7 +0.4	16.7 1.3	76 +4	47	4.1 1.0	4.2
14. Rajasthan (East)	0 -5.4	0	26.3 +1.1	9.3 0	61 +3	35	1.8 +0.4	2.4	29. Kerala	60.4 +17.4	140	3.9 +0.3	2.8 0	76 -1	68	3.8 0.8	4.1
15. Madhya Pradesh (West).	0 -8.9	0	26.8 +1.0	10.2 +0.5	55 -5	36	1.3 -0.1	1.8	30. Arabian Sea Islands.	17.5 -44.3	28	31.5 +1.4	23.6 +0.3	79 +7	73	4.1 +0.9	4.3

NOTE.— The entries in the second line for each division and sub-division indicate departures from normal.
*Data of Himachal Pradesh not included.

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—DECEMBER, 1959 (AGRAHAYANA IO, —PAUSA IO, 1881 SAKA) 539

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with																		
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 and 0.2mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20(a)	20(b)	21	22	23	24	25	26	27	28	29								
Rajasthan (East) — Contd.																																					
Ajmeer	24.9	+0.8	29.5	4,5	7.9	-0.2	2.2	20	0	0	-6.6	0	..	0	-0.4	6.0	4.0	+2.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Kotah	27.6	+1.4	32.7	14,15	11.5	+0.3	7.2	21	0	0	-5.3	0	..	0	-0.5	1.6	1.4	-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Chambal	27.4	..	31.4	5	7.4	..	0.9	21	0	0	..	0	..	0	..	5.0	2.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Jhalawar	27.6	+1.9	33.1	14	9.9	+0.6	3.7	21	0	0	-4.8	0	..	0	-0.3	4.7	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Udaipur	26.1	+0.4	30.1	5	8.1	-1.1	2.7	21	0	0	-2.8	0	..	0	-0.3	3.4	1.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Erinpura (Jawai Dam).	28.1	..	32.2	4	10.1	..	3.9	19	0	0	..	0	..	0	..	3.2	2.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Madhya Pradesh (West)																																					
Gwalior (P.B.O.)	25.7	+1.1	31.1	15	8.0	+0.9	2.2	27	0	0	-6.1	0	..	0	-0.7	6.5	3.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Sheopur Kalan	23.7	..	29.8	14	8.4	..	2.8	18,21	0	0	..	0	..	0	..	5.9	4.5	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Guna	26.3	+0.8	30.6	17	8.3	+0.8	1.2	21	0	0.3	-10.4	0.3	14	0	-1.2	7.3	4.4	..	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Rajgarh	27.9	..	32.8	17	8.3	..	..	21	0	0.1	..	0.1	13	0	..	4.8	3.5	..	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Neemuch	26.7	+0.9	31.0	5	10.7	+1.0	4.8	18	0	0	-4.6	0	..	0	-0.5	6.4	5.1	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ratlam	28.3	..	31.5	13,16	12.1	..	7.6	18	0	0	..	0	..	0	..	8.6	7.3	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Alirajpur	29.0	..	32.8	16	12.2	..	7.0	30	0	0	..	0	..	0	..	6.8	3.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Indore	27.1	+0.6	30.8	16,17	10.8	+1.0	6.0	30	0	0	-6.9	0	..	0	-0.6	9.5	6.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bhopal (Bairagarh)	26.5	+0.8	31.0	17	10.6	+0.8	5.3	19	0	0	-5.1	0	..	0	-0.5	8.8	6.6	+0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Khandwa	30.0	+1.1	34.1	16	11.0	+0.2	6.1	25	0	0	-8.1	0	..	0	0.5	6.0	3.9	+0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hoshangabad	27.4	+0.7	32.3	17	12.0	-0.2	6.0	26	0	0	-11.9	0	..	0	-0.7	5.3	3.6	+0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Betul	27.0	..	30.3	15	10.0	..	6.6	21,22,25	0	0	..	0	..	0	..	5.7	3.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Chhindwara	27.3	..	30.7	15,17	9.2	..	4.3	22	0	0	..	0	..	0	..	6.0	3.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Seoni	26.6	+1.2	30.5	18	10.4	+0.1	5.8	28	0	0	-13.2	0	..	0	-0.9	7.5	4.4	+1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sagar	25.4	0	30.1	17	13.5	+1.3	8.1	18	0	0	-12.9	0	..	0	-0.8	6.6	5.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nowgong	26.2	+2.6	31.2	15	6.7	-1.3	2.0	19,21	0	0	-10.2	0	..	0	-0.7	4.4	1.9	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Madhya Pradesh (East)																																					
Sitna	26.3	+2.0	31.0	15	8.4	-0.2	4.1	22	0	0	-10.9	0	..	0	-0.9	(b) 3.3	(b) 1.1	-1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sidhi	26.0	..	29.9	18	6.9	..	2.5	28	0	0	..	0	..	0	..	5.5	2.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Umaria	26.1	+1.2	31.0	18	7.0	-0.7	2.5	22	0.4	0	-8.9	0	..	0	-0.9	2.6	1.2	-1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jabalpur	27.6	+2.5	32.5	16	8.5	+0.4	4.0	22	0	0	9.4	0	..	0	-0.7	4.7	2.9	+1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mandla	26.5	..	30.0	17,18	7.2	..	2.6	24	0	0	..	0	..	0	..	2.0(a)	1.1	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pendra	24.1	+0.9	27.7	18	10.5	+0.7	5.5	22	0	0	-7.4	0	..	0	-0.5	8.2	5.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ambikapur	23.7	..	26.8	16,17	7.1	..	3.5	22,26	0	0	..	0	..	0	..	9.0	6.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Champa	26.9	..	30.2	18	12.5	..	8.5	28	0	0	..	0	..	0	..	5.4	4.8	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raigarh	27.7	..	30.5	16,17	11.0	..	6.4	24	0	0	..	0	..	0	..	4.5	3.0	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raipur	27.3	+0.6	31.0	18	12.8	+0.3	8.5	30	0	0	-5.1	0	..	0	-0.3	6.3	3.8	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanker	27.0	+0.3	29.8	19	11.6	+1.2	6.4	25,26	0	0	-3.6	0	..	0	-0.4	2.5	1.6	-1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jagdapur (P.B.O.).	27.2	+0.5	30.2	19	11.6	+0.7	6.9	25,26	9.4	9.4	+5.3	9.4	9	1	+0.6	5.5	2.7	..	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	
Gujarat																																					
Deesa	29.6	..	32.9	3	11.2	..	5.8	23	0	0	..	0	..	0	..	8.6	7.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Radhanpur	28.7	..	32.5	4	11.6	..	5.5	19	0	0	..	0	..	0	..	..	..	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idar	29.1	..	32.1	5	16.1	..	9.2	18	0	0	..	0	..	0	..	7.2	6.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ahmedabad	29.7	+0.4	33.1	5	12.6	+0.5	7.8	30	0	0	-1.0	0	..	0	-0.1	9.4	5.2	+2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dohad	28.5	-0.6	31.1	4,13,16	13.3	+1.6	8.8	19	0	0	-2.0	0	..	0	-0.3	8.9	6.9	..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baroda	31.4	+0.7	33.4	7,12,16</																																	

TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—DECEMBER, 1959. (AGRAHAYANA 10—PAUSA, 10, 1881 SAKA) 541

Days on and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days (2.5 mm. or more)		Wind speed, km. per hour			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours	Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 mm. or 0.2 mm. or more)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														2	3
Telengana—contd.																															
Bhadrachallam	29.7	..	32.0	20	16.6	..	11.0	27	8.0	17.0	..	9.0	8	2	..	5.6	3.5	..	2	0	0	0	0	3	0	0	0	0	0	0	0
Khammameth	29.9	..	32.2	20	17.4	..	12.4	27	0	3.2	..	3.2	9	1	..	3.9	2.4	..	1	0	0	0	0	1	0	0	0	0	0	0	0
Royalaseema																															
Aroyavaram	25.2	..	29.1	31	15.4	..	12.3	23	9.6	53.8	..	17.6	8	4	..	7.0	4.2	0	5	0	0	0	0	0	0	0	0	0	0	0	0
Cuddapah	29.4	-0.6	30.8	31	18.6	-0.1	14.4	15	3.2	7.4	-13.2	7.4	11	1	-0.5	6.6	4.9	-2.3	1	0	0	0	0	0	0	0	0	0	0	0	0
Anantapur	29.8	..	32.2	31	18.0	..	14.6	15,16,17	1.2	16.5	+10.2	15.3	1	1	+0.5	11.5	8.8	..	2	0	0	0	0	0	0	0	0	0	0	0	0
Kurnool	31.4	+1.2	33.2	21	18.0	+2.0	14.5	24	1.0	1.9	-3.2	0.9	8	..	-0.3	7.2	5.0	+1.1	0	1	0	0	0	1	0	0	0	0	0	0	0
Madras State																															
Palayamcotai	29.8	..	31.2	12	22.3	..	20.3	5,6	25.9	67.7	..	28.8	20	10	..	11.9	8.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuticorin	27.8	..	28.8	13	22.7	..	20.5	17	2.0	32.0	..	20.4	1	2	..	20.8	19.9	..	3	0	0	0	0	0	0	0	0	0	0	0	0
Pamban	28.8	+0.7	30.0	9,11	..	..	..	..	23.6	100.7	-12.1	67.5	1	5	-4.4	7.5	8.8	-0.3	9	1	0	0	0	0	0	0	0	0	0	0	0
Tondi	29.1	..	31.4	19	22.4	..	20.1	23	29.3	54.9	..	35.3	2	3	..	17.1	12.8	..	0	8	0	0	1	0	0	0	0	0	0	0	0
Mathurai	29.9	+0.6	31.4	12,19	21.8	+0.6	18.6	6	15.8	22.0	-29.1	15.8	2	2	-1.6	9.2	6.4	-0.4	0	4	0	0	0	0	0	0	0	0	0	0	0
Mathurai (Aero-drome)	29.2	..	30.9	19	21.0	..	18.3	6	16.9	26.6	..	16.2	2	3	..	16.9	..	..	6	0	0	0	1	0	0	0	0	0	0	0	0
Nagapattinam	27.9	+0.1	29.0	13	22.8	+0.4	20.6	23	108.8	168.8	-109.3	100.6	20	5	-4.1	19.4	8.2	+4.8	8	0	0	0	0	0	0	0	0	0	0	0	0
Tiruchirapalli	29.2	-0.3	30.9	26	21.4	+0.6	18.8	24	17.8	21.9	-49.2	15.2	2	2	-2.5	15.2	11.9	+3.2	4	0	0	0	0	0	0	0	0	0	0	0	0
Coimbatore	28.5	-0.6	30.8	11	19.7	+0.8	16.5	1,16	11.9	135.3	+100.8	60.8	12	5	+2.4	9.9	6.4	+2.4	7	0	0	0	0	0	0	0	0	0	0	0	0
Coimbatore (Peelamedu Aerodrome)	28.3	..	30.2	12	19.1	..	15.0	16	10.2	59.0	..	26.7	1	3	..	16.7	10.6	..	1	5	0	0	1	1	0	0	0	1	0	0	0
Salem	29.7	-0.4	32.3	31	19.8	+1.0	16.1	24	10.8	25.0	-1.2	13.8	1	2	-0.2	7.2	7.7	+2.4	3	0	0	0	0	0	0	0	0	0	0	0	0
Kallakurichi	28.4	..	30.8	31	21.7	..	18.8	23	45.0	106.8	..	60.6	1	4	..	11.7	8.9	..	5	0	0	0	0	0	0	0	0	0	0	0	0
Cuddalore	28.1	0	30.1	8	21.3	+0.1	18.9	23	15.8	182.0	-8.3	141.0	1	4	-2.3	14.6	9.5	+1.8	5	0	0	0	0	0	0	0	0	0	0	0	0
Tiruattur	28.0	..	30.1	11	18.0	..	13.5	24	2.5	12.1	..	5.4	11	3	..	2.8	1.8	..	3	0	0	0	0	2	0	0	0	0	0	0	0
Vellore	28.1	+0.1	30.7	31	18.5	+0.3	14.9	16	..	9.6	-56.9	5.4	1	2	-1.9	10.0	6.8	+3.1	2	0	0	0	0	0	0	0	0	0	0	0	0
Tambaram (Aero-drome)	..	..	21.0	..	..	..	19.2	22	3.1	6.1	..	3.1	11	1	..	..	..	..	0	4	0	0	0	0	0	0	0	0	0	0	0
Madras (Nungambakkam)	27.8	-1.1	29.3	9	21.1	+0.6	18.9	23	34.4	37.4	-101.0	20.4	8	2	-3.4	10.1	10.6	-3.1	0	6	0	0	0	0	0	0	0	0	0	0	0
Coastal Mysore																															
Karwar	32.9	..	34.7	19	20.2	..	17.2	15	0	15.0	+9.2	15.0	1	1	+0.7	8.6	5.3	..	1	0	0	0	0	0	0	0	0	0	0	0	0
Honavar	33.5	+0.8	35.3	27	20.3	-0.6	17.4	5	3.1	9.7	+4.6	6.6	1	2	+1.6	3.1	7.3	+2.6	2	0	0	0	1	0	0	0	0	0	0	0	0
Mangalore	31.9	+0.2	34.0	16	22.2	+0.4	20.0	23,24,25	18.3	22.0	+9.1	22.0	2	1	+0.3	10.2	8.0	+0.8	0	2	0	0	0	0	0	0	0	0	0	0	0
Mangalore (Bajpe Aerodrome)	32.3	..	34.3	29	21.4	..	18.5	24	68.2	73.2	..	68.4	2	2	..	10.5	7.2	..	1	3	0	0	2	0	0	0	0	0	0	0	0
Interior Mysore																															
Bidar	27.8	+0.5	31.0	31	16.7	+0.3	12.1	28	1.0	1.4	-4.7	1.4	9	0	-0.5	13.6	9.9	+1.0	1	0	0	0	0	2	0	0	0	0	0	0	0
Gulbarga	30.7	+1.0	32.4	19,30,31	15.8	+1.0	11.4	26	0	0	-3.8	0	..	0	-0.3	12.0	11.3	-3.4	0	0	0	0	0	0	0	0	0	0	0	0	0
Bijapur	29.9	+0.9	34.4	31	16.2	+1.4	12.2	25	0	0.2	-6.1	0.2	9	0	-0.6	6.8	3.9	+0.2	1	0	0	0	0	0	0	0	0	0	0	0	0
Belgaum	29.4	+0.2	32.6	31	16.1	+2.2	11.6	25	0	0	-8.6	0	..	0	-0.5	11.0	6.9	-1.1	0	0	0	0	0	6	0	0	0	0	0	0	0
Belgaum (Sambre Aerodrome)	..	..	..	..	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gadag	30.4	+1.8	34.1	31	17.8	+1.5	15.1	25	0	0.0	-10.4	0	-9.6	0	-0.6	12.8	8.7	+1.6	0	0	0	0	0	0	0	0	0	0	0	0	0
Raichur	29.5	+0.2	31.9	19,31	..	..	..	..	37.0	37.0	+33.7	37.0	9	1	+0.7	10.5	9.8	-1.3	0	1	0	0	0	0	0	0	0	0	0	0	0
Interior Mysore (South)																															
Bellary	30.5	+0.7	33.2	31	18.7	+2.1	15.5	17	0	4.2	+0.9	4.2	1	1	+0.7	8.6	5.0	+1.1	0	0	0	0	0	0	0	0	0	0	0	0	0
Chitaldrug	28.2	+0.2	30.8	31	17.7	+1.1	14.7	14	0	0	-13.2	0	..	0	-0.8	9.7	7.2	-0.2	0	2	0	0	1	8	0	0	0	0	0	0	0
Shimoga	29.4	..	32.1	30,31	15.5	..	12.0	16,24	1.4	3.6	..	2.8	2	1	..	10.2	4.5	..	0	2	0	0	0	0	0	0	0	0	0	0	0
Balchonnur	26.6	+0.5	29.2	29	15.7	+0.9	13.3	25	..	10.0	-1.9	6.9	2	2	+1.2	..	..	..	0	2	0	0	0	0	0	0	0	0	0	0	0
Hassan	27.0	0	29.4	11	15.5	+1.3	11.6	17	0.8	2.6	-14.2	1.0	1	0	-1.1	6.9	3.5	-1.3	3	0	0	0	0	4	0	0	0	0	0	0	0
Mysore	..	..	..	..	..	..	..	..	3.8	4.3	-5.9	3.8	2	1	+0.1	11.9	11.9	+1.8	2	0	0	0	0	6	0	0	0	0	0	0	0
Bangalore (Central Observatory)	26.1	+0.4	28.8	30	15.9	+1.3	11.3	17	0.2	3.7	-7.5	3.0	1	1	-0.2	11.8	9.1	+1.4	0	1	0	0	0	7	0	0	0	1	0	0	
Bangalore (Aerodrome)	27.4	..	30.0	30	16.3	..	12.4	24	1.3	11.4	..	8.6	12	1	..	..	..	..	3	0	0	0	0	0	0	0	0	0	1	0	0
Kerala																															
Kozhikode	31.2	+0.3	32.4	1	21.8	0	18.4	24	1.8	62.0	+36.3	50.2	21	3	+1.4	10.2	8.5	+2.1	0	3	0	0	1	0	0						

542 TABLE II—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—DECEMBER, 1959 (AGRAHAYANA 10 PAUSA 10, 1881 SAKA)

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days, (2.5 mm. or more)		Wind speed, km. per hour.			Weather phenomena—No. of days with										
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal	Lowest	Date	Total fall during 0830-1730 hours		Departure from normal	Heaviest fall in 24 hours	Date	Total in the month	Departure from normal	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal	Precipitation (0.1 mm. and 0.2 mm.)	Precipitation (0.3 mm. or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground-frost	Gale	Squall	Line squall
									Total fall	Hours																			
Arabian Sea Islands																													
Minicoy*																													
Amini Divi*																													
Hill Stations (excluding Kashmir)—																													
Walong (R)																													
Kohima	16.9	..	18.9	1	14.9	..	12.1	26,31	0	0	..	0	..	0	0	0	0	0	0	4	0	0	0	0	0
Aijal	21.8	..	21.2	13	12.9	..	10.6	30	1.3	6.4	..	5.1	7	1	..	3.6	3.3	..	0	2	0	0	0	0	0	0	0	0	0
Shillong	17.7	+1.3	19.9	12	4.3	-0.1	1.1	30	0	1.4	-5.7	1.4	1	0	-0.9	0.2	0	-1.9	0	1	0	0	0	0	9	0	0	0	
Cherrapunji	17.5	+0.7	19.1	9	9.1	+0.2	5.2	30	0	0	-12.5	0	..	0	-0.7	6.0	4.1	+0.1	0	0	0	0	0	0	0	0	0	0	
Darjiling (Raj Bha-wan)	12.9	+1.7	16.7	13,14	4.9	+1.3	1.6	30	0	0	-6.9	0	..	0	-0.7	1.2	1.1	-0.2	0	0	0	0	0	0	0	0	0	0	
Kalimpong	19.5	+2.7	24.7	11	12.0	0	8.4	13	0	0	-8.1	0	..	0	-0.7	4.7	3.8	-7.1	0	0	0	0	0	0	0	0	0	0	
Katmandu (Hydromet)	19.4	..	21.7	4	3.7	..	-0.6	31	0	0	..	0	..	0	..	1.7	1.0	..	0	0	0	0	0	21	0	2	0	0	
Muktেশ्वर (Kumaon)	14.7	+2.9	17.3	12	5.1	+1.5	0.4	30	0	0	-26.7	0	..	0	-1.8	11.5	11.4	+3.0	0	0	0	0	1	0	0	31	0	0	
Nainital	14.8	..	18.9	20,22	3.4	..	-0.6	29,30,31	2.0	2.0	..	2.0	30	0	..	8.0	7.0	..	0	1	0	0	0	0	0	0	0	0	
Joshimath	14.4	..	17.4	1	3.5	..	-0.3	30	0	0	..	0	..	0	..	4.4	5.9	..	0	0	0	0	0	0	0	0	0	0	
Badrinath																													
Lokpal	-5.8	..	-4.4	4	-11.6	..	-12.2	11	..	3.3	..	2.2	30	0	..	..	..	..	0	2	..	..	..	..	..	..	..	..
Mussooree	14.3	+2.3	18.4	5,17,20	5.1	+0.9	0.7	30	0	0	-35.1	0	..	0	-2.6	7.9	7.0	-0.2	0	0	0	0	0	0	10	0	0	0	
Simla	13.2	+2.9	17.9	2	5.0	+0.9	0.5	29	1.2	1.2	-30.3	1.2	6	0	-2.4	4.3	3.6	+1.5	0	1	0	0	0	0	0	0	0	0	
Dharampore (R)																													
Dalhousie	16.6	..	20.7	10	5.0	..	-0.2	30	0	0	..	0	..	0	..	2.1	3.1	..	0	0	0	0	0	0	0	0	0	0	
Dharamshala	18.1	..	21.6	5	8.5	..	5.6	24,30	0	1.2	..	1.2	29	0	..	5.4	4.5	..	0	1	0	0	0	0	0	0	0	0	
Abu	23.1	+2.9	25.4	5days	9.9	-1.5	5.5	30	0	0	-3.1	0	..	0	-0.3	..	..	..	0	0	0	0	0	0	0	0	0	0
Pachmarhi	23.6	+1.8	26.8	17	6.8	-0.9	2.1	25	0	0	-10.9	0	..	0	-0.8	5.3	3.6	+0.7	0	0	0	0	0	0	0	0	0	0	
Mahabaleswar	24.6	+2.0	26.7	31	16.6	+3.0	13.8	26	0	0	-6.6	0	..	0	-0.6	9.6	11.4	0	0	0	0	0	0	0	0	0	0	0	
Nandi Hills	21.0	..	23.9	31	10.3	..	7.9	10,11	..	..	..	55.0	1	1	0	..	..	0	0	0	0	0	31	0	0	0	0	0
Mercaara	24.1	+0.3	26.4	20	15.0	+0.7	12.6	6	0	0	-18.3	0	..	0	-1.2	14.3	8.6	+0.2	0	0	0	0	0	0	0	0	0	0	
Kodaikanal	16.6	+0.1	20.1	18	8.5	+0.1	6.1	6,25	75.9	127.4	-3.7	66.3	2	8	+0.9	14.8	15.6	+2.4	8	0	0	0	0	5	0	0	0	0	
Ootacamund	19.5	+0.8	21.6	16	10.5	+0.9	5.9	24	..	173.4	+31.7	95.0	1	7	+0.4	..	5.3	+0.2	0	10	0	0	0	0	0	0	0	0	
Coonoor	19.5	+0.8	21.6	16	10.5	+0.9	5.9	24	..	173.4	+31.7	95.0	1	7	+0.4	..	5.3	+0.2	0	10	0	0	0	0	0	0	0	0	
Sikkim																													
Lachen	10.2	..	13.1	12,16	-1.1	..	-5.6	24	..	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..
Tibet																													
Yatung (Chumbi), (R)																													
Ceylon																													
Colombo	30.0	-0.2	32.3	26	22.7	+0.2	19.7	7	28.2	179.9	+38.2	38.6	31	10	+2.4	..	..	..	0	12	0	0	7	0	0	0	0	0
Trincomalee	27.6	+0.5	29.3	8	24.5	+0.9	22.3	5	51.8	144.0	-203.0	34.5	22	11	2.6	..	..	..	0	20	0	0	0	0	0	0	0	0
Batticaloa	28.2	..	29.4	7	23.6	..	21.6	23	147.1	354.1	..	69.1	21	16	..	..	..	..	0	20	0	0	2	0	0	0	0	0
Hambantota	29.4	+0.2	30.7	13	23.2	+0.5	22.0	1	43.0	120.8	-5.9	23.4	18	6	-2.3	..	..	..	0	10	0	0	2	0	0	0	0	0
Mannar	28.0	..	29.5	31	24.5	..	22.3	16	106.6	127.3	..	27.2	19	10	..	..	..	..	0	14	0	0	2	0	0	0	0	0
Hydrometeorological Observatories																													
Damodar Catchment																													
Bokaro	25.1	..	27.7	1	7.0	..	3.7	22,28	0	0	..	0	..	0	..	6.8	4.2	..	0	0	0	0	0	1	0	0	0	0	
Hazaribagh	21.8	..	24.2	6,16	8.1	..	5.1	27	0	0	..	0	..	0	..	7.2	4.5	..	0	0	0	0	0	0	0	0	0	0	
Tilaiya	22.0	..	25.9	16	9.6	..	5.6	22,23	0	0	..	0	..	0	..	6.9	5.5	..	0	0	0	0	0	0	0	0	0	0	
Ramgarh	25.6	..	27.8	17	8.1	..	4.4	22,28	0	0	..	0	..	0	..	3.7	1.8	..	0	0	0	0	0	0	0	0	0	0	
Panchet Hills	25.9	..	28.0	1	12.2	..	9.2	22	0	0	..	0	..	0	..	7.0	5.1	..	0	0	0	0	0	0	0	0	0	0	
Durgapur	25.8	..	28.1	31	11.9	..	9.2	22	0	0	..	0	..	0	..	9.9	7.1	..	0	0	0	0	0	0	0	0	0	0	
Mahanadi Catchment																													
Hirakud	27.1	..	30.4	18	13.8	..	9.6	27	0.8	0.6	..	0.6	7	0	..	4.9	3.0	..	0	1	0	0	0	2	0	0	0	0	
Khijrawar	26.5	..	20.4	18,19	11.0	..	5.2	27	0	0	..	0	..	0	..	5.6	2.6	..	0	0	0	0	0	0	0	0	0	0	
Sonepur	26.9	..	30.6	19	10.4	..	6.9	25	..	10.1	..	10.1	9	1	..	2.1	..	..	0	1	..	..	..	..	..	..	..	..
Ginabhar	27.3	..	30.2	6	8.1	..	3.2	22	..	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..
Bhinkund	26.1	..	30.3	18	11.1	..	6.2	27	0	0.2	..	0.2	9	0	..	2.3	1.5	..	1	0	0	0	0	6	0	0	0	0	
Narbada Catchment																													
Punasa	30.0	..	34.5	18	11.3	..	5.6	25	0	0	..	0	..	0	..	5.9	3.9	..	0	0	0	0	0	0	0	0	0	0	
Bagra Tawa	27.3	..	32.6	16	9.4	..	3.9	22	0	0	..	0	..	0	..	4.1	2.4	..	0	0	0	0	0	0	0	0	0	0	
Thikri	30.7	..	34.5	15	11.9	..	7.9	25	..	0	..	0	..	0	..	..	..	..	0	0	0	0	0	0	0	0	0	0
Sabermati Catchment																													
Jhadol	25.7	..	29.2	2	5.4	..	-1.0	22	..	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..
Dharoi	29.2	..	32.5	5	12.9	..	8.1	18	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..

(R) Register not received.

*Data given as addenda

TABLE II.—SUMMARY OF OBSERVATIONS OF TEMPERATURE, RAINFALL AND WEATHER—DECEMBER, 1959 (AGRAHAYANA 10--PAUSA 10,1881 SAKA) 543

Division and station	Air temperature in °C								Rainfall in millimetres					No. of rainy days. (2.5 mm. or more)		Wind speed, km. per hour.			Weather phenomena—No. of days with												
	Mean maximum	Departure from normal	Highest	Date	Mean minimum	Departure from normal.	Lowest	Date	Total fall during 0830-1730 hours	Total fall in 24 hours.	Departure from normal.	Heaviest fall in 24 hours.	Date	Total in the month	Departure from normal.	Mean between 0830-1730 hours	Mean 24 hours	Departure from normal.	Precipitation (0.1 and 0.2 mm.)	Precipitation (0.3 mm or more)	Snow or sleet	Hail	Thunder heard	Fog	Dust-storm	Ground frost	Gale	Squall	Line squall		
																														20a	20b
Hydrometeorological Observatories (Contd.)																															
Ganga Catchment																															
Mukhim	15.6	..	18.9	17	5.8	..	1.9	30	0	0	..	0	..	0	0	0
Tehri	22.2	..	25.1	6	4.5	..	1.6	30	0	0	..	0	..	0	..	1.5	1.2	..	0	0	0	0	0	0	0	5	0	0	0	0	
Gandak Catchment																															
Gorkha . . . . .	..	..	..	..	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Pokhara	20.3	..	22.2	18	9.6	..	6.2	27	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Nawakot	20.8	..	23.3	5.7	10.3	..	7.4	31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Jomosom . . . . .	..	..	..	..	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Timure	16.5	..	20.1	19	3.6	..	0.1	30,31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayan Region)																															
Dajlekha	16.7	..	20.1	20	7.0	..	4.0	21	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Gogra Catchment																															
Dandeldhure	11.8	..	18.0	1	6.5	..	2.2	30	2.0	2.0	..	2.0	24	0	..	..	..	..	0	1	..	..	..	..	..	..	..	..	..	..
Butwal	24.6	..	26.7	5	13.5	..	6.9	19	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																															
Katmandu* . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																															
Chautara	18.9	..	21.3	5	8.0	..	4.6	30,31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Okhaldunga † . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barahkshetra	24.5	..	26.2	6	12.3	..	10.2	30	0	0	..	0	..	0	..	5.2	4.3	..	0	0	0	0	0	0	0	0	0	0	0	0	
Angbung	20.1	..	22.2	13	8.8	..	5.4	31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Taplejung	16.0	..	18.3	6	6.3	..	2.7	31	0	0	..	0	..	0	..	..	..	..	0	0	0	0	0	1	0	0	0	0	0	
Taplethok	21.7	..	24.1	18	7.9	..	5.1	31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Bhojpur	17.0	..	19.3	1,13	..	..	..	..	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola	10.2	..	15.7	17	-1.4	..	7.1	30	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Chaiepur	19.5	..	22.0	6	11.2	..	7.8	31	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..	..
Tista Catchment																															
Gangtok	16.0	..	19.1	13	6.2	..	3.5	30	0	0.4	..	0	10,31	0	..	5.0	3.6	..	0	0	0	0	0	0	0	1	0	0	0		
Geyzing	19.6	..	21.1	4 days	7.4	..	4.1	29	0	0	..	0	..	0	..	..	..	..	0	0	..	..	..	..	..	..	..	..	..

(a) Mean of 30 days.

(c) Mean of 28 days.

(k) Mean of 20 days.

*Data included under Hill stations. † Data not available.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p.h.)			No. of observations											
			At mean sea level or height in g.p.m. of nearest standard isobaric level.	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction											
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Bay Islands Mayabandar	0830	28	1013.1	1009.9	..	27.2	24.6	23.4	29.4	79	..	3.8	..	5.9	0	1	21	4	7	0	0	0	0	0	0	0	0	9	11
	1730	"	1010.8	1007.7	..	26.8	24.4	23.2	28.6	81	..	3.7	..	7.7	0	0	30	4	17	0	0	1	0	0	1	1	1	7	0
Long Island	0830	25	1012.1	1010.2	..	27.2	24.9	23.9	29.9	84	..	3.3	..	0.3	0	0	1	0	0	0	0	0	0	0	1	0	30	0	0
	1730	"	1009.3	1007.4	..	26.5	24.4	23.4	28.9	85	..	4.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
Port Blair	0530	79	1011.3	1002.3	..	24.5	23.4	22.9	27.9	91	..	4.3	..	8.9	0	1	24	3	16	2	0	1	1	2	0	0	6	0	0
	0830	"	1013.0	1004.1	0	28.3	25.3	23.9	29.7	77	+6	5.2	+1.0	11.1	0	2	28	5	19	4	1	1	0	0	0	0	1	0	0
	1130	"	1011.4	1002.6	..	29.3	25.9	24.2	30.7	74	..	5.3	..	12.3	0	1	30	4	19	6	0	2	0	0	0	0	0	0	0
	1730	"	1010.7	1001.8	..	26.1	24.1	23.1	28.4	84	..	5.5	..	10.6	0	0	28	0	21	4	1	0	0	0	0	2	3	0	0
	2330	"	1012.0	1003.1	..	25.2	23.8	23.3	28.3	89	..	4.5	..	10.1	0	4	18	1	15	4	0	1	0	0	0	1	9	0	0
Car Nicobar	0830	10	1012.1	1010.9	..	28.5	25.0	23.4	25.9	74	..	4.1	..	7.5	0	0	30	1	16	10	2	0	0	0	0	0	1	1	0
	1730	"	1009.6	1003.4	..	26.9	24.4	23.2	28.6	81	..	4.5	..	5.3	0	0	22	0	16	6	0	0	0	0	0	0	9	0	0
Nancowry	0830	26	1012.0	1009.1	..	28.7	26.0	24.9	31.5	80	..	4.7	..	0.2	0	0	1	0	0	0	1	0	0	0	0	0	30	0	0
	1730	"	1009.6	1006.7	..	26.9	24.8	23.7	29.5	83	..	4.2	..	0.2	0	0	2	0	1	0	1	0	0	0	0	0	29	0	0
Kondul	0830	8	1012.0	1011.0	..	27.5	25.0	24.0	29.6	81	..	4.8	..	3.9	0	0	23	0	12	8	2	0	0	0	0	0	8	1	0
	1730	"	1009.9	1009.0	..	27.3	25.0	23.7	29.8	82	..	5.5	..	5.7	0	0	23	0	14	8	0	0	0	0	0	0	8	0	0
Assam (Including Manipur, Tripura)																													
Pasighat	0830	157	1018.0	999.7	..	17.2	13.5	10.2	14.2	63	..	1.3	..	24.1	0	23	8	12	1	0	0	0	0	0	18	0	0	0	
	1730	"	1014.1	995.8	..	17.2	14.7	12.8	14.8	75	..	1.5	..	5.5	0	0	26	4	0	0	0	0	0	2	20	5	0	0	0
Digboi	0830	152	1018.2	1000.4	..	17.2	15.3	13.7	15.7	81	..	4.6	..	4.3	0	0	31	5	10	1	5	0	3	6	1	0	0	0	0
	1730	"	1014.0	996.3	..	20.5	17.3	15.8	18.0	75	..	(a) 4.9	..	(a) 4.0	0	0	28	2	12	0	2	0	2	7	3	2	0	0	0
Dibrugarh	0830	106	1017.9	1005.5	-0.6	18.3	15.5	13.5	14.5	73	-18	0.3	-2.3	29	0	0	24	1	7	16	0	0	0	0	0	0	7	0	0
	1730	"	1013.9	1001.5	..	18.2	15.8	13.8	14.8	74	..	0.6	..	0.2	0	0	2	0	0	1	0	0	0	1	0	29	0	0	0
Dibrugarh (Mohan bari Aerodrome).	0230	111	1015.3	1002.0	..	10.5	10.2	9.9	12.2	97	..	1.3	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	0530	"	1016.2	1002.8	..	9.9	9.8	9.7	12.0	98	..	1.5	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	0830	"	1018.1	1005.0	..	16.8	15.0	13.4	14.4	78	..	1.1	..	3.6	0	0	21	1	9	11	0	0	0	0	0	0	10	0	0
	1130	"	1015.2	1002.5	..	22.8	16.7	12.1	14.1	51	..	1.4	..	4.5	0	0	26	7	9	8	0	0	0	1	1	5	0	0	0
	1730	"	1014.1	1001.1	..	15.7	15.1	13.7	15.7	82	..	1.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	2330	"	1014.3	1002.7	..	11.5	11.1	10.7	12.9	95	..	1.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	0330	102	1017.7	1005.8	..	17.9	15.2	13.2	15.2	75	..	0.4	..	3.5	0	0	27	5	11	10	1	0	0	0	0	0	4	0	0
North Lakhimpur	1130	"	1015.4	1003.6	..	22.9	17.1	12.6	14.6	53	..	1.0	..	5.2	0	0	30	2	5	15	5	1	0	1	0	1	1	0	0
	1730	"	1013.8	1001.7	..	16.9	14.7	13.2	15.2	79	..	1.1	..	1.5	0	0	16	4	2	1	4	0	2	0	3	15	0	0	
	0830	97	1018.3	1007.1	-0.1	17.7	16.0	14.4	17.0	82	-12	7.0	+1.1	0.8	0	0	8	2	1	2	0	0	3	0	0	23	0	0	
Sibsagar	1730	"	1014.1	1002.8	..	21.2	17.5	14.6	17.1	69	..	5.2	..	0.4	0	0	4	2	1	1	0	0	0	0	0	0	27	0	0
	0530	90	1015.5	1004.9	..	10.9	10.9	10.8	12.9	99	..	2.5	..	0.3	0	0	2	0	0	0	0	1	0	1	0	29	0	0	
	0830	"	1017.8	1007.1	..	16.1	14.9	14.0	16.0	88	..	33.1	..	0.6	0	0	4	2	1	0	0	0	0	0	0	1	10	0	0
	1130	"	1015.2	1005.0	..	22.4	17.7	14.4	16.4	61	..	1.1	..	4.3	0	0	21	8	11	1	0	0	0	0	0	1	27	0	0
	1730	"	1013.4	1003.0	..	18.1	16.1	14.7	16.7	80	..	1.0	..	0.7	0	0	4	2	1	0	0	0	0	0	0	1	30	0	0
Gola ghat	2300	"	1015.3	1004.7	..	12.6	12.3	12.0	14.0	97	..	0.5	..	0.1	0	0	1	0	0	0	0	0	0	0	0	1	30	0	0
	0830	"	..	..	..	17.6	15.4	13.8	15.8	77	..	0.6	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
Gohpur	1730	"	..	..	..	23.2	19.1	15.8	17.9	64	..	1.4	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	0830	"	..	..	..	17.2	15.4	14.0	16.0	82	..	..	..	29	0	0	30	0	0	24	3	2	0	1	0	1	0	1	0
Tezpur	1730	"	..	..	..	20.6	18.7	17.5	20.0	84	..	..	..	1.2	0	0	11	3	0	8	0	0	0	0	0	0	20	0	0
	0830	79	1017.9	1008.6	-1.0	16.3	15.2	14.4	16.4	89	+1	0.3	-1.7	2.9	0	0	27	0	13	12	0	1	0	0	0	0	4	1	0
Tezpur (P.B.O.).	1730	"	1014.1	1004.9	..	19.4	17.1	15.6	17.7	79	..	0.8	..	0.8	0	0	7	0	4	2	0	1	0	0	0	0	30	0	0
	0230	78	1015.3	1005.9	..	13.9	13.5	13.1	15.1	96	..	0	..	0.1	0	0	1	0	1	0	0	0	0	0	0	0	29	0	0
	0530	"	1016.1	1006.7	..	12.1	11.8	11.4	13.5	96	..	0.5	..	0.2	0	0	2	1	0	1	0	0	0	0	0	0	9	0	0
	0830	"	1018.2	1008.9	..	17.4	15.2	13.6	15.6	78	..	0.3	..	2.5	0	0	22	2	7	13	0	0	0	0	0	0	9	0	0
	1130	"	1015.9	1006.6	..	22.6	17.6	14.2	16.2	61	..	0.7	..	4.7	0	0	29	0	7	17	2	2	1	0	0	0	2	0	0
	1730	"	1014.4	10																									

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Assam (Including Manipur, Tripura)—(Contd.) Gauhati (Bhorjor Aerodrome)	0230	54	1014.7	1008.3	..	12.4	12.1	11.8	13.8	97	..	0.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	0530	..	1015.4	1008.9	..	11.4	11.2	11.1	13.2	98	..	2.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	0830	..	1017.5	1011.1	..	17.7	16.1	14.9	16.8	84	..	1.8	..	0.8	0	0	7	1	5	0	0	1	0	0	0	0	24	0
	1130	..	1015.1	1008.8	..	22.7	18.5	15.6	17.7	64	..	1.8	..	5.0	0	0	29	5	20	0	0	0	0	1	3	2	0	0
	1730	..	1013.5	1007.2	..	18.8	17.2	16.1	18.3	84	..	2.7	..	0.5	0	0	5	1	3	1	0	0	0	0	0	0	26	0
	2330	..	1015.5	1009.0	..	13.7	13.3	12.9	14.9	96	..	0.4	..	0.1	0	0	1	0	0	0	1	0	0	0	0	0	30	0
Rangiya	0830	..	..	..	..	19.4	16.6	15.0	17.0	79	..	0.1	..	3.7	0	0	26	0	5	19	2	0	0	0	0	0	5	0
	1730	..	..	..	..	22.1	18.7	16.7	19.0	74	..	0	..	0.8	0	0	6	0	1	4	1	0	0	0	0	0	25	0
Goalpara	0830	38	1017.0	1012.5	..	17.1	15.4	13.8	15.8	82	..	1.2	..	24	0	0	23	1	15	4	2	0	1	0	0	0	8	0
	1730	..	1012.7	1007.9	..	23.6	19.6	17.0	19.4	67	..	0.1	..	1.0	0	0	10	0	10	0	0	0	0	0	0	0	21	0
Dhubri	0830	35	1017.8	1013.6	-0.2	17.7	16.2	15.0	17.0	85	+2	0.4	-0.9	2.1	0	0	18	0	16	2	0	0	0	0	0	0	13	0
	1730	..	1013.9	1009.8	..	21.5	18.2	16.1	18.3	73	..	0.2	..	0.5	0	0	5	0	3	1	0	0	0	0	0	1	26	0
Dhubri (Rupsi Aerodrome)	0530	36	1014.5	1010.2	..	12.2	11.8	11.3	13.4	95	..	0.8	..	1.2	0	0	9	1	8	0	0	0	0	0	0	0	22	0
	0830	..	1012.3	1016.6	..	17.1	15.8	14.3	16.3	79	..	0.7	..	4.5	0	0	30	0	14	14	2	0	0	0	0	0	1	0
	1130	..	1015.0	1010.8	..	23.0	18.2	14.8	17.1	60	..	1.1	..	7.8	0	0	30	0	4	15	7	0	2	0	0	0	1	2
	1730	..	1012.9	1008.7	..	18.4	16.7	15.4	17.5	83	..	0.9	..	0.1	0	0	1	0	1	0	0	0	0	0	0	0	30	0
Tura	0830	370	1018.7	975.3	..	15.8	13.8	12.2	14.2	78	..	0.9	..	2.2	0	0	28	0	4	21	3	0	0	0	0	0	3	0
	1730	..	1014.1	973.4	..	22.6	17.6	14.8	16.8	60	..	3.8	..	2.2	0	0	20	0	3	2	2	3	9	1	0	11	0	
Agartala	0230	16	1013.5	1011.6	..	13.1	12.7	12.2	14.2	94	..	0.7	..	0.7	0	0	6	1	2	0	2	0	1	0	0	0	25	0
	0530	..	1014.0	1012.1	..	11.9	11.6	11.3	13.4	96	..	0.9	..	1.2	0	0	10	1	1	1	3	4	0	0	0	0	21	0
	0830	..	1016.0	1014.1	..	19.2	17.0	15.6	17.7	80	..	1.0	..	3.0	0	0	24	9	4	1	0	2	0	3	5	7	0	
	1130	..	1014.3	1012.5	..	24.8	18.2	13.5	15.5	51	..	2.0	..	8.0	0	0	31	9	6	1	1	0	2	3	9	0	0	
	1730	..	1012.9	1011.0	..	20.7	17.6	15.2	17.3	70	..	1.1	..	3.6	0	0	23	7	2	0	1	0	1	3	9	8	0	
	2330	..	1014.4	1012.5	..	14.7	14.0	13.3	15.3	91	..	0.6	..	1.6	0	0	12	0	3	2	4	1	1	0	1	19	0	
Kailashar (G.W.O.)	0530	29	1015.2	1011.7	..	12.2	12.1	11.8	13.8	98	..	1.7	..	0.2	0	0	2	0	0	0	1	1	0	0	0	0	29	0
	0830	..	1017.1	1013.6	..	17.8	16.1	14.6	16.6	82	..	1.3	..	1.3	0	0	13	1	0	0	1	7	1	0	3	18	0	
	1130	..	1015.3	1011.9	..	25.1	19.0	15.0	17.0	55	..	2.0	..	4.7	0	0	28	8	8	2	0	4	0	0	6	3	0	
	1730	..	1013.8	1010.4	..	20.3	17.8	16.1	18.3	77	..	1.3	..	0.4	0	0	3	3	0	0	0	0	0	0	0	0	28	0
Silchar	0830	29	1016.9	1013.5	-0.8	18.5	16.3	14.6	15.6	78	-5	0.9	-1.1	0.4	0	0	4	0	2	0	2	0	0	0	0	0	27	0
	1730	..	1013.2	1009.8	..	21.5	18.1	15.7	17.8	69	..	0.4	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Silchar (Kumbhigram Aerodrome)	0530	97	1013.7	1002.3	..	13.0	12.7	11.5	13.6	91	..	1.0	..	9.5	0	0	31	0	2	28	1	0	0	0	0	0	0	
	0830	..	1015.5	1004.2	..	18.3	15.7	13.5	15.5	71	..	0.5	..	12.1	0	0	31	0	0	25	6	0	0	0	0	0	0	
	1130	..	1013.4	1002.3	..	24.1	17.7	13.1	15.1	50	..	0.9	..	6.4	0	0	31	0	1	13	15	1	1	0	0	0	0	
	1730	..	1011.5	1000.4	..	21.5	17.3	14.6	16.6	66	..	1.1	..	2.5	0	0	21	10	2	1	0	1	2	4	1	10	0	
Imphal	0530	801	1020.2	926.7	..	5.9	5.8	5.8	9.2	99	..	1.8	..	0.1	0	0	1	0	0	0	1	0	0	0	0	0	30	0
	0830	..	1019.9	928.1	..	12.9	11.2	9.2	11.6	77	..	2.3	..	2.4	0	0	17	0	0	2	2	10	3	0	0	0	14	0
	1130	..	1014.9	926.0	..	20.0	14.5	10.3	12.5	54	..	1.6	..	5.6	0	0	29	0	0	3	4	6	13	1	1	2	1	
	1730	..	1014.6	924.5	..	15.2	12.5	10.3	12.5	72	..	0.8	..	4.7	0	0	24	1	2	0	0	0	6	5	10	7	0	
	2330	..	1019.0	926.3	..	8.8	8.6	8.4	11.0	98	..	0.8	..	0.4	0	0	3	1	1	0	0	0	0	0	0	1	28	0
Hafong	0830	682	1016.6	939.3	..	16.4	14.3	12.7	14.7	79	..	2.1	..	3.2	0	0	31	15	5	0	0	6	5	0	0	0	0	
	1730	..	1011.5	939.9	..	18.3	14.8	12.2	14.2	68	..	2.7	..	5.3	0	0	31	3	1	0	1	2	16	0	8	0	0	
Lumding	0830	149	1018.2	1000.5	..	15.2	14.4	13.6	15.6	87	-4	1.6	..	0.7	0	0	7	0	0	0	3	1	0	0	3	24	0	
	1730	..	1014.0	996.7	..	21.1	19.5	18.1	20.8	81	..	1.4	..	0.1	0	0	1	0	0	0	1	0	0	0	0	0	30	0
Sub-Himalayan West Bengal																												
Cooch Behar (C.W.O.)	0830	43	1017.4	1012.3	..	17.6	15.6	13.5	16.2	77	..	0.7	..	2.9	0	0	18	0	8	10	0	0	0	0	0	0	13	0
	1130	..	1015.7	1010.7	..	23.6	17.7	13.4	15.5	53	..	0.9	..	5.4	0	0	24	0	8	10	3	0	0	0	0	0	7	3
	1730	..	1013.6	1008.6	..	19.4	16.7	14.6	16.7	74	..	0.7	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Jalpaiguri	0830	83	1017.9	1007.9	-0.2	14.8	13.8	12.8	14.9	89	+5	0.6	-0.4	3.3	0	0	24	17	2	0	0	0	0	0	0	5	7	0
	1730	..	1013.7	1004.1	..	22.9	17.4	13.3	15.4	55	..	0.5	..	1.5	0	0	16	2	0	1								

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed, Km. per hour.	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of lowest standard isobaric level.	At station level	Departure from normal.	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	S W	W	NW	Calm	Variable	
																												Wind direction
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Gangetic West Bengal																												
Dum Dum	0230	6	1014.2	1013.4	..	24.5	13.9	13.4	15.5	93	..	0.6	..	0.5	0	0	5	4	0	0	0	0	0	0	0	1	26	0
	0530	..	1014.8	1014.0	..	13.5	13.0	12.5	11.5	94	..	0.8	..	0.7	0	0	6	3	0	0	0	0	0	0	0	3	25	0
	0830	..	1017.1	1016.3	..	18.5	15.5	13.1	15.2	71	..	1.1	..	3.9	0	0	26	17	1	0	0	0	0	0	0	8	5	0
	1130	..	1015.8	1015.0	..	24.2	17.3	12.0	14.1	47	..	1.7	..	7.0	0	0	31	14	3	0	0	2	0	2	10	0	0	
	1730	..	1013.7	1012.9	..	21.6	17.7	14.8	17.1	65	..	1.7	..	0.6	0	0	6	2	0	0	0	1	1	0	2	25	0	
	2330	..	1015.0	1014.2	..	15.5	14.8	14.1	16.4	92	..	0.7	..	0.2	0	0	2	0	0	0	0	0	0	1	1	29	0	
Cuttack	0830	6	1017.0	1016.2	-0.7	18.7	15.2	12.3	14.4	67	-10	0.9	-0.5	3.2	0	0	23	9	2	0	0	0	0	0	0	12	8	0
	1130	..	1015.6	1014.9	..	24.4	17.2	11.4	13.8	44	..	1.2	..	7.0	0	0	30	7	5	1	1	0	0	1	15	1	0	
	1730	..	1013.5	1012.8	..	21.7	16.7	12.8	14.9	58	..	1.3	..	1.5	0	0	14	3	0	0	0	1	1	0	9	17	0	
Barrackpore	0530	7	1015.3	1014.5	..	14.0	13.0	12.1	14.3	90	..	1.1	..	2.0	0	0	10	3	0	0	0	0	0	0	0	7	21	0
	0830	..	1017.6	1016.8	..	18.7	15.8	13.8	15.7	72	..	1.3	..	7.4	0	1	25	5	0	0	0	0	1	2	18	5	0	
	1130	..	1016.4	1015.6	..	23.9	17.8	13.4	15.4	52	..	2.1	..	10.2	0	1	28	7	0	1	0	0	1	2	18	2	0	
	1730	..	1014.0	1013.2	..	20.6	17.3	14.9	17.1	70	..	1.6	..	0.6	0	0	5	2	0	0	0	0	0	0	0	3	26	0
	2330	..	1015.7	1014.9	..	16.1	14.9	13.9	16.1	87	..	0.8	..	0.3	0	0	2	1	0	0	0	0	0	0	0	1	29	0
Saugor Island	0830	3	1016.7	1016.3	-0.7	20.0	17.4	15.4	17.9	76	-1	1.5	-0.4	12.8	0	2	29	16	9	0	0	0	0	0	0	6	0	0
	1730	..	1013.3	1013.0	..	21.9	18.1	15.5	17.6	67	..	3.5	..	8.3	0	0	31	13	8	1	0	1	2	1	5	0	0	
Sandheads	0530	10	1014.2	1013.1	..	22.4	17.9	14.7	17.0	62	..	1.6	..	16.1	0	5	25	22	5	0	0	0	0	0	1	2	1	0
	0830	..	1016.9	1015.8	-0.4	23.3	18.6	15.5	17.6	62	+4	1.9	+0.1	14.7	0	5	25	19	5	0	0	0	0	0	1	5	1	0
	1130	..	1016.0	1014.9	..	24.2	19.1	15.6	18.0	59	..	1.9	..	14.9	0	6	24	20	4	0	0	0	0	0	1	5	1	0
	1730	..	1013.7	1012.6	..	24.0	18.4	14.5	16.7	57	..	2.5	..	13.0	0	3	27	20	2	0	1	0	0	0	1	6	1	0
	2330	..	1014.9	1013.8	..	22.9	17.9	14.3	15.8	59	..	0.3	..	10.6	0	0	28	17	6	1	0	0	0	0	0	4	3	0
Contai	0830	11	1017.0	1015.8	..	18.7	14.9	11.9	14.0	65	..	1.0	..	3.0	0	0	29	12	1	0	0	0	0	0	4	12	2	0
	1730	..	1013.6	1012.4	..	22.6	17.1	12.9	15.0	55	..	1.6	..	0.8	0	0	7	1	0	1	0	3	0	0	2	24	0	
Midnapore	0830	45	1017.6	1012.3	-0.1	21.0	15.2	10.3	12.6	51	-12	0.6	-0.7	4.9	0	0	23	15	8	0	0	0	0	0	0	0	8	0
	1730	..	1013.5	1008.2	..	23.6	16.1	10.5	12.2	45	..	0.6	..	3.1	0	0	23	12	7	1	0	1	1	0	1	8	0	
Purulia	0830	255	1018.8	989.0	..	16.7	12.4	8.2	11.1	56	..	0.4	..	3.2	0	0	24	1	0	0	0	1	1	10	11	7	0	
	1730	..	1014.5	985.4	..	21.3	15.3	10.6	12.3	49	..	0.4	..	0.8	0	0	7	4	1	0	1	0	0	1	0	24	0	
Burdwan	0830	32	1017.3	1013.5	-0.6	18.1	16.1	14.5	16.7	79	+11	0.4	-1.0	0.3	0	0	3	0	0	0	0	0	1	0	2	28	0	
	1730	..	1014.4	1010.7	..	22.7	20.5	19.2	22.3	79	..	0.3	..	0.2	0	0	2	1	0	0	0	0	0	0	1	0	29	0
Krishnagar	0830	15	1017.4	1015.7	-0.4	18.6	15.5	13.1	15.1	70	-4	0.4	-0.9	1.5	0	0	15	9	0	0	0	0	0	0	4	2	16	0
	1730	..	1013.5	1011.8	..	21.5	17.0	13.9	15.2	62	..	0.3	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Asansol	0230	126	1015.1	1000.2	..	14.3	12.2	10.3	13.0	77	..	0	..	1.3	0	0	7	0	0	0	0	0	0	0	0	7	24	0
	0530	..	1015.6	1000.6	..	13.1	11.6	10.1	12.5	82	..	0.7	..	3.0	0	0	18	0	0	0	0	0	0	0	4	14	13	0
	0830	..	1017.7	1002.9	-0.2	17.1	13.9	11.0	13.3	69	+2	0.9	-0.5	5.3	0	0	26	1	0	0	0	0	0	0	12	13	5	0
	1130	..	1016.1	1001.6	..	23.2	16.1	9.7	12.5	42	..	1.0	..	7.5	0	0	29	1	1	0	1	0	0	9	17	2	0	
	1730	..	1013.8	999.2	..	21.4	15.3	10.3	12.4	49	..	1.2	..	2.3	0	0	20	1	1	1	0	0	0	5	12	11	0	
	2330	..	1015.8	1000.9	..	15.7	13.0	10.5	12.8	71	..	0.2	..	2.8	0	0	17	2	0	0	0	0	0	1	14	14	0	
Suri	0830	77	1017.7	1008.7	..	18.2	14.1	10.5	12.6	61	..	1.5	..	6.9	0	0	30	4	1	0	0	1	2	10	12	1	0	
	1730	..	1014.2	1005.3	..	21.9	15.7	10.4	13.0	49	..	0.9	..	2.7	0	0	28	3	3	0	0	0	1	2	19	3	0	
Berhampore	0830	19	1016.8	1014.5	-1.2	16.4	14.1	12.3	14.8	77	+1	0.7	-0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	1730	..	1013.3	1011.1	..	22.0	18.0	15.0	17.4	65	..	0.3	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Orissa																												
Bapatada	0830	54	1018.6	1012.2	..	18.5	14.2	10.3	12.7	59	..	1.5	..	2.7	0	0	28	15	0	0	0	0	0	0	13	3	0	
	1730	..	1014.5	1008.2	..	23.1	17.0	13.0	15.1	58	..	1.6	..	0.9	0	0	9	3	1	0	0	0	0	0	5	22	0	
Talasore	0830	20	1017.2	1014.8	-0.7	18.5	14.7	11.4	13.6	65	-5	2.2	+0.7	4.1	0	0	30	24	2	0	0	0	0	0	4	1	0	
	1730	..	1013.5	1011.2	..	21.8	17.1	13.7	15.6	61	..	2.4	..	0.3	0	0	2	0	0	2	0	0	0	0	0	29	0	
Chandbali	0830	6	1017.2	1016.5	0	18.6	15.8	13.7	15.7	73	-2	1.3	-0.4	4.8	0	0	29	13	5	0	0	0	0	2	9	2	0	
	1730	..	1013.5	1012.8	..	23.2	17.6	13.7	15.6	57	..	1.8	..	3.0	0	0	20	6	5	6	1	2	0	0	0	11	0	
Cuttack	0830	27	1017.1	1013.9	-0.8	17.9	15.7	14.0	16.0	78	+3	1.5	-0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	1730	..																										

Division and station	Hour of observation I.S.T.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed in km. per hour	Wind speed (km. p.h.)			No. of observations										
			At mean sea level or height in g. p. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		Z	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Orissa—(Contd.) Gopalpur.	0530	17	1014.8	1012.8	..	16.7	15.4	18.4	16.9	87	..	2.3	..	9.1	0	0	31	12	0	0	0	0	0	0	0	19	0	0
	0830	..	1017.3	1015.3	0	19.7	17.0	15.0	16.8	75	+3	2.9	+1.5	11.1	0	0	31	16	0	0	0	0	0	0	0	15	0	0
	1130	..	1016.4	1014.4	..	25.7	19.1	14.6	17.4	52	..	2.8	..	10.8	0	1	30	9	5	10	3	2	0	0	2	0	0	
	1730	..	1013.8	1011.8	..	23.6	18.6	15.1	17.4	60	..	2.9	..	12.5	0	0	31	2	5	18	5	1	0	0	0	0	0	
	2330	..	1015.4	1013.4	..	18.7	17.0	15.8	17.9	83	..	1.1	..	3.8	0	0	25	10	0	0	0	0	0	0	1	14	6	0
Koraput	0830	913	1549.5	915.7	..	18.7	13.6	9.1	12.0	55	..	1.3	..	3.8	0	0	31	1	2	10	2	9	6	0	1	0	0	
	1730	..	1528.4	913.0	..	21.1	14.8	9.3	12.5	53	..	0.8	..	4.1	0	0	31	7	1	0	1	0	0	0	0	22	0	0
Titilagarh	0830	211	1017.7	993.3	..	18.7	16.0	14.0	16.0	74	..	1.4	..	2.2	0	0	22	3	19	0	0	0	0	0	0	0	9	0
	1730	..	1013.4	989.6	..	25.6	19.1	14.5	16.9	51	..	1.4	..	2.9	0	0	30	5	25	0	0	0	0	0	0	0	1	0
Belangir	0830	190	1017.6	995.5	..	18.9	15.3	12.6	15.0	67	..	2.4	..	5.2	0	0	31	10	6	3	4	3	3	0	2	0	0	
	1730	..	1013.6	992.2	..	24.6	17.3	11.4	13.8	46	..	2.9	..	5.1	0	0	31	13	10	1	1	1	1	0	4	0	0	
Angul	0830	139	1018.2	1001.8	+0.4	16.5	14.1	12.0	14.3	75	+3	2.3	+0.7	3.6	0	0	27	0	3	0	0	1	1	7	15	4	0	
	1730	..	1013.8	998.0	..	24.1	16.7	10.6	13.0	43	..	3.0	..	2.7	0	0	24	9	6	3	0	2	0	0	4	7	0	
Keonjhar	0830	463	1017.9	962.6	..	17.9	13.6	10.1	12.5	61	..	1.3	..	2.3	0	0	23	8	6	1	1	1	0	1	5	8	0	
	1730	..	1013.4	958.7	..	21.7	15.6	10.7	13.2	51	..	2.1	..	3.0	0	0	27	8	7	1	0	1	0	4	6	4	0	
Sambalpur	0830	148	1017.8	1000.6	-0.2	19.2	14.9	11.2	13.6	59	-14	1.8	+0.4	1.3	0	0	13	5	4	2	0	0	0	0	2	18	0	
	1730	..	1013.5	996.3	..	24.1	16.7	10.7	12.9	44	..	2.7	..	0.5	0	0	5	1	0	0	1	0	2	0	1	26	0	
Jharsuguda	0230	230	1015.4	988.3	..	13.0	11.9	10.6	13.0	86	..	0.5	..	1.4	0	0	12	10	1	1	0	0	0	0	0	0	19	0
	0530	..	1016.2	988.9	..	11.7	10.8	9.9	12.3	90	..	1.0	..	4.1	0	0	28	20	6	1	0	0	0	0	1	3	0	
	0830	..	1018.1	991.2	..	16.6	13.2	10.2	12.5	66	..	1.8	..	5.8	0	0	30	22	8	0	0	0	0	0	0	1	0	
	1130	..	1016.5	990.3	..	23.5	16.1	10.1	12.2	43	..	1.5	..	5.1	0	0	29	14	10	2	0	1	0	2	0	2	0	
	1730	..	1013.6	987.3	..	22.2	16.0	10.9	13.3	49	..	1.9	..	2.6	0	0	18	1	2	2	2	4	5	1	1	13	0	
Bihar Plateau Jamshedpur	2330	..	1015.9	988.9	..	15.1	13.2	11.2	13.7	79	..	0.7	..	3.5	0	0	23	13	3	2	1	2	0	1	1	8	0	
	0830	129	1018.2	1002.9	0	14.7	12.3	10.1	12.4	75	0	1.1	0.5	2.5	0	0	21	0	0	0	0	0	0	0	11	10	10	
	1730	..	1013.7	998.9	..	22.5	16.5	11.7	13.9	52	..	1.2	..	0.6	0	0	6	1	0	1	1	0	0	2	1	25	0	
	Jamshedpur (P.B.O.)	0530	145	1016.2	999.2	..	11.7	10.7	9.7	11.6	88	..	1.1	..	1.5	0	0	11	1	0	0	1	1	1	4	3	20	0
		0830	..	1018.2	1001.5	..	15.5	12.6	9.8	12.3	69	..	1.5	..	5.0	0	0	27	1	0	0	0	2	3	16	5	4	0
1130		..	1016.3	1000.2	..	22.7	15.2	8.4	12.3	41	..	1.4	..	7.9	0	0	30	2	1	0	0	3	3	12	10	1	0	
1730		..	1013.8	997.5	..	22.6	15.8	9.9	12.6	45	..	1.5	..	1.6	0	0	10	1	2	1	0	1	0	3	2	21	0	
Chaibasa	2330	..	1016.0	999.3	..	14.6	12.6	10.8	13.0	78	..	0.5	..	1.8	0	0	11	0	0	1	0	0	1	6	3	20	0	
	0830	226	1017.8	991.3	-0.3	15.9	12.9	9.9	12.1	66	-10	0.9	-0.6	0.4	0	0	4	0	0	0	0	0	4	0	0	27	0	
Ranchi	1730	..	1013.6	987.7	..	21.3	15.2	9.2	12.3	48	..	1.6	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0	
	0830	655	1016.7	942.6	-0.3	18.0	12.1	6.2	9.9	47	-11	0.1	-1.3	0.9	0	0	9	4	0	5	0	0	0	0	0	22	0	
Ranchi (C.W.O.)	1730	..	1014.4	940.8	..	19.1	13.1	7.6	10.8	48	..	0.1	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0	
	0530	652	1016.3	940.7	..	10.8	8.1	5.1	8.6	69	..	0.8	..	3.7	0	0	14	7	0	0	0	0	0	1	6	17	0	
	0830	..	1017.3	943.0	..	15.8	10.9	5.9	9.5	53	..	1.5	..	3.7	0	0	15	9	0	0	0	1	0	0	5	16	0	
	1130	..	1016.4	943.0	..	19.8	12.0	3.8	8.4	36	..	1.4	..	8.2	0	0	26	15	1	1	1	0	1	0	7	5	0	
Daktongunj	1730	..	1013.7	940.4	..	18.9	11.5	3.5	8.2	38	..	1.4	..	4.3	0	0	20	12	0	0	1	0	0	0	7	11	0	
	0830	221	1018.8	992.9	+0.1	16.2	12.2	8.4	11.0	60	-19	0.7	-0.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hazaribagh	1730	..	1014.5	988.9	..	19.9	15.3	11.4	13.5	59	..	1.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	611	1017.9	947.9	0	15.9	11.2	6.8	9.9	55	-6	1.3	0	3.3	0	0	22	4	0	1	0	1	2	0	14	9	0	
Dhanbad	1730	..	1014.4	945.2	..	18.1	12.6	7.7	11.5	51	..	1.0	..	4.4	0	0	30	6	0	0	0	1	0	0	23	1	0	
	0830	257	1016.8	987.1	..	17.9	13.9	10.2	12.6	61	..	1.1	..	3.0	0	0	31	4	0	0	1	0	0	0	20	6	0	
Dumka	1730	..	1014.1	984.6	..	20.9	15.5	11.2	13.3	53	..	0.9	..	0.3	0	0	3	0	0	0	0	0	0	0	3	25	0	
	0830	149	1017.6	1000.2	-0.4	17.7	14.2	11.1	14.3	65	-1	0.9	0	1.5	0	0	16	0	1	0	1	0	1	5	8	15	0	
Bihar Plains Purnea	1730	..	1013.7	996.5	..	21.1	16.9	13.7	15.9	63	..	0.8	..	0.4	0	0	4	0	0	0	1	0	0	3	0	27	0	
	0830	38	1017.7	1013.2	-0.5	17.2	14.7	12.7	14.7	75	-10	1.0	+0.1	1.8	0	0	16	0	0	2	0	0	4	10	0	15	0	
Forbesganj	1730	..	1013.8	1009.5	..	20.1	17.0	14.4	16.9	72	..	0.7	..	0.1	0	0	1	0	0	0	0	0	0	1	0	30	0	
	0830	61	1017.2	1010.1	..	15.8	14.2	12.9	14.8	83	..	1.1	..	2.4	0	1	20	2	0	7	0	0	0	6	5	11	0	
Barbhangha	1730	..	1013.3	1006.3	..	21.5																						

Division and station	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p.h.)			No. of observations									
			At mean sea level or height in g. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable
			19	20	21	22	23	24				25	26		27	28											
Bihar Plains—(Contd.) Patna (Aerodrome) —(Contd.)	0830	60	1017.4	1010.3	..	14.9	12.2	9.4	12.0	70	..	1.2	..	3.9	0	0	18	0	1	0	0	0	2	14	1	13	0
	1130	..	1016.3	1009.4	..	22.4	15.7	10.4	12.5	46	..	0.7	..	7.4	0	0	23	0	2	1	0	0	3	9	8	8	0
	1730	..	1013.7	1006.9	..	21.2	15.5	10.9	13.1	53	..	1.2	..	2.9	0	0	11	0	0	0	0	0	0	6	5	20	0
	2330	52	1015.9	1009.7	..	15.8	13.3	11.4	13.0	76	..	0.2	..	0.3	0	0	1	0	0	0	0	0	0	1	0	30	0
Dehri	0830	107	1018.2	1005.7	..	16.4	13.0	9.8	12.2	66	..	0.5	..	3.6	0	0	31	0	1	0	2	2	24	2	0	0	0
	1730	..	1014.0	1001.6	..	22.2	15.6	9.7	12.3	47	..	0.6	..	4.3	0	0	29	1	1	0	0	0	4	8	15	2	0
Gaya	0230	116	1016.3	1002.3	..	10.8	9.4	7.9	10.7	83	..	0.3	..	3.7	0	0	26	0	0	0	6	13	4	1	0	7	0
	0530	..	1016.7	1002.6	..	9.6	8.6	7.6	10.3	87	..	0.4	..	3.6	0	0	24	0	0	0	6	13	4	1	0	7	0
	0830	..	1018.7	1004.9	+0.7	14.9	12.0	9.2	11.7	69	+2	1.1	+0.1	4.6	0	1	24	0	0	0	0	8	15	1	1	6	0
	1130	..	1017.5	1004.1	..	22.8	15.6	9.2	11.8	43	..	0.9	..	9.9	0	3	25	3	0	2	0	1	3	6	12	3	0
	1730	..	1014.9	1001.4	..	21.1	15.0	9.6	11.3	48	..	1.0	..	4.4	0	0	25	5	2	1	0	0	0	2	15	6	0
	2330	..	1016.8	1002.9	..	12.8	10.8	8.5	11.4	76	..	0.2	..	4.0	0	0	24	0	0	1	4	0	8	1	1	7	0
Jamui	0830	82	1018.0	1008.1	..	14.6	13.0	11.0	16.6	79	..	1.5	..	2.3	0	0	16	0	0	5	1	0	0	0	4	15	0
	1730	..	1013.6	1003.8	..	21.7	17.1	13.2	15.9	61	..	0.9	..	2.2	0	0	18	0	0	1	0	0	0	11	6	13	0
Bhagalpur	0530	49	1015.7	1009.8	..	13.2	11.7	10.2	12.7	82	..	0.9	..	2.0	0	0	14	0	0	1	0	4	8	1	0	17	0
	0830	..	1017.9	1012.2	..	15.5	12.9	10.9	12.9	73	..	1.2	..	2.7	0	0	17	0	0	1	0	0	7	9	0	14	0
	1130	..	1017.0	1011.3	..	21.3	15.9	11.8	13.8	55	..	1.2	..	6.5	0	0	27	1	2	1	0	0	0	9	14	4	0
	1730	..	1014.4	1008.7	..	20.5	16.1	12.8	14.7	61	..	1.0	..	5.2	0	0	21	0	0	3	0	1	3	13	1	10	0
	2330	..	1016.0	1010.2	..	16.0	13.4	11.2	13.4	74	..	0	..	3.5	0	0	21	0	0	1	0	2	12	6	0	10	0
Sabour	0830	37	1017.7	1013.2	-0.3	15.3	13.2	11.3	13.4	78	-4	1.4	+0.1	3.3	0	0	28	1	1	0	0	1	15	9	1	3	0
	1730	..	1013.8	1009.5	..	20.0	16.5	13.7	15.9	68	..	1.3	..	1.5	0	0	14	0	0	1	0	0	0	6	9	15	0
Uttar Pradesh (East) Gonda	0830	110	1018.2	1005.1	..	13.5	12.0	10.4	13.1	82	0	0.5	-1.0	1.6	0	0	16	0	0	1	0	0	0	3	2	26	0
	1730	..	1014.7	1002.0	..	19.1	16.1	14.0	15.8	71	..	0.9	..	0.5	0	0	5	0	0	0	0	0	0	0	3	2	26
Nautanwa	0830	99	1017.6	1005.8	..	14.1	13.3	12.1	14.6	88	..	0.5	..	1.4	0	0	12	0	0	2	3	3	2	1	1	19	0
	1730	..	1014.2	1002.7	..	20.3	16.6	13.6	15.5	66	..	0.6	..	0.5	0	0	3	0	0	1	0	0	0	1	1	28	0
Gorakhpur	0830	77	1018.4	1009.3	+0.6	18.8	14.3	10.1	12.9	59	-19	0.1	-0.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	1014.6	1005.6	..	21.9	16.4	12.0	14.1	54	..	0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorakhpur (P.B.O.)	0230	78	1015.0	1005.7	..	14.5	12.5	10.7	12.9	78	..	0.5	..	2.1	0	0	17	1	3	0	0	0	4	7	2	14	0
	0530	..	1015.2	1005.9	..	13.5	11.7	9.9	12.2	80	..	0.6	..	2.7	0	0	17	4	0	0	0	0	4	5	4	14	0
	1130	..	1017.1	1008.0	..	21.3	16.2	12.2	14.0	56	..	0.9	..	4.9	0	0	31	1	1	0	6	5	10	4	4	0	0
	2330	..	1015.7	1006.5	..	15.9	13.6	11.6	13.8	77	..	0.2	..	1.9	0	0	14	2	1	0	0	0	7	3	1	17	0
Jamgarh	0830	78	1017.5	1008.0	..	13.3	11.5	9.5	12.4	79	..	0.3	..	3.1	0	0	29	2	1	0	0	0	9	17	0	2	0
	1730	..	1015.0	1005.8	..	19.7	16.3	14.0	15.6	68	..	0.3	..	..	0	0	7	1	0	0	0	0	0	6	0	24	0
Ballia	0830	64	1018.1	1010.5	..	13.3	11.3	9.4	11.9	78	..	0.8	..	1.5	0	0	11	0	0	1	0	0	6	4	0	20	0
	1730	..	1014.9	1007.5	..	21.2	16.0	12.0	13.7	57	..	0.5	..	0.9	0	0	5	0	2	0	0	0	1	1	1	26	0
Varanasi (Banaras)	0830	76	1018.7	1009.6	+0.3	15.1	12.1	9.7	11.5	67	-9	0.7	-0.4	3.2	0	0	23	1	0	0	0	1	10	10	1	8	0
	1730	..	1015.1	1006.3	..	21.5	15.5	9.9	12.4	48	..	1.2	..	2.5	0	0	22	0	2	1	0	1	6	10	2	9	0
Varanasi (Banaras) (Babatpur Aerodrome)	0530	85	1017.4	1007.0	..	9.2	8.5	7.7	10.7	91	..	0.3	..	3.7	0	0	15	0	0	1	0	1	6	7	0	16	0
	0830	..	1019.4	1009.1	..	14.4	11.9	9.5	12.0	72	..	0.6	..	7.0	0	1	27	0	1	1	0	0	18	7	1	3	0
	1130	..	1018.7	1008.7	..	21.9	15.8	10.8	13.0	50	..	0.5	..	9.1	0	1	28	1	1	1	0	1	12	10	3	2	0
	1730	..	1016.0	1006.0	..	19.9	15.7	12.4	14.6	63	..	0.9	..	4.3	0	0	23	1	2	1	0	0	9	9	1	8	0
	2330	..	1017.6	1007.2	..	12.2	10.9	9.5	11.9	85	..	0.2	..	3.8	0	0	22	0	1	1	1	5	8	4	2	9	0
Allahabad (Bamrauli)	0230	98	1015.9	1004.1	..	11.4	9.9	8.2	10.7	81	..	0.4	..	2.0	0	0	14	0	1	0	0	0	4	8	1	17	0
	0530	..	1016.4	1004.5	..	10.0	8.9	7.6	10.5	86	..	0.4	..	1.9	0	0	13	0	0	1	0	1	3	7	1	18	0
	0830	..	1018.4	1006.6	-0.3	14.5	11.2	7.9	10.5	65	-12	0.8	-0.7	3.6	0	0	18	0	0	1	0	1	3	11	2	13	0
	1130	..	1017.5	1006.4	..	23.2	15.3	8.4	11.4	39	..	0.6	..	4.8	0	0	26	3	1	1	1	0	3	13	4	5	0
	1730	..	1014.7	1003.4	..	21.2	15.6	11.0	13.2	52	..	1.3	..	1.3	0	0	8	1	1	1	0	0	0	5	0	23	0
	2330	..	1016.5	1004.9	..	13.2	11.1	8.9	11.4	76	..	0.5	..	1.7	0	0	13	0	2	0	0	1	0	7	3	18	0
Sultanpur	0830	97	1017.9	1006.4	..	15.8	12.2	8.2	11.4	60	..	0.7	..	1.7	0	0	17	0	1	0	0	0	1	15	0	14	0
	1730	..	1014.4	1003.3	..	22.0	15.7	9.4	11.9	47	..	0.9	..	1.1													

Division and station	Hour of observation I.S.T.	Height of barometer above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km.p.h.)			No. of observations											
			At mean sea level height in g. p. m. of the nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	Mean wind speed, Km. per hour	61 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Uttar Pradesh (East) —Contd. Kanpur (Aerodrome)—Contd.	0830	126	1018.1	1003.2	..	13.5	10.3	6.8	9.6	64	..	1.5	..	..	0	0	13	1	0	0	1	0	3	8	0	18	0
	1130	"	1017.6	1003.1	..	21.8	14.1	6.0	9.6	36	..	1.2	..	..	0	2	22	1	1	1	1	1	2	12	5	7	0
	1730	"	1014.7	1000.2	..	21.7	14.0	6.3	9.1	37	..	1.6	..	..	0	0	21	0	0	1	1	0	0	7	12	10	0
	2330	"	1016.6	1001.7	..	13.0	10.0	6.2	9.7	66	..	0.6	..	..	0	0	11	0	1	1	0	0	1	8	0	20	0
Lucknow	0830	111	1018.6	1005.3	+0.4	12.3	10.4	8.7	10.9	78	+1	0.8	-0.2	1.5	0	0	13	0	0	0	0	0	0	0	12	1	18	0
	1730	"	1014.8	1002.0	..	21.7	15.1	10.5	12.6	52	..	1.2	..	0.9	0	0	7	0	0	0	0	0	3	4	0	24	0	
Lucknow (Amausi Aerodrome).	0230	128	1015.7	1000.3	..	9.2	8.1	6.9	9.9	85	..	0.6	..	3.8	0	0	19	1	1	1	2	0	3	6	5	12	0	
	0530	"	1015.9	1000.4	..	7.8	7.0	6.4	9.3	91	..	0.6	..	3.8	0	0	18	1	0	0	1	0	2	11	3	13	0	
	0830	"	1018.0	1002.8	-0.3	12.6	10.5	8.4	11.0	76	+8	1.1	+0.1	4.9	0	1	19	0	0	1	0	0	1	12	6	11	0	
	1130	"	1017.4	1002.6	..	21.6	15.0	9.1	11.7	45	..	1.1	..	9.8	0	1	28	2	1	1	1	0	1	12	11	2	0	
Hardoi	1730	"	1014.6	999.7	..	19.9	14.7	10.0	12.5	53	..	1.4	..	6.5	0	0	24	3	1	1	0	0	1	8	10	7	0	
	2330	"	1016.5	1001.1	..	10.9	9.4	7.3	10.5	81	..	1.0	..	4.8	0	0	21	1	2	0	0	0	6	6	6	10	0	
Lakhimpur Kheri	0830	142	1018.2	1001.1	..	11.4	9.7	7.9	10.7	79	..	1.0	..	3.4	0	0	19	2	0	0	0	0	0	0	13	4	12	0
	1730	"	1014.5	998.0	..	20.5	14.7	9.6	12.1	50	..	1.8	..	2.0	0	0	15	1	0	1	0	0	0	9	5	15	0	
Bahraich	0830	147	1017.5	999.9	..	11.7	10.3	8.9	11.4	83	..	0.7	..	1.0	0	0	8	0	0	0	0	0	0	0	8	0	23	0
	1730	"	1014.0	997.0	..	19.9	15.7	12.3	14.5	63	..	1.5	..	0.2	0	0	2	0	0	0	0	0	0	0	2	0	29	0
Uttar Pradesh (West) Orai	0830	124	1018.1	1003.3	+0.4	15.4	12.6	9.9	12.5	70	-10	1.3	+0.3	4.0	0	0	29	2	1	6	0	2	0	18	0	2	0	
	1730	"	1014.8	1000.4	..	19.9	15.4	11.6	14.1	59	..	2.2	..	2.8	0	0	28	0	0	4	0	1	0	21	2	3	0	
Jhansi	0830	141	1020.3	1003.9	..	18.9	13.7	8.7	11.2	52	..	0.5	..	3.6	0	0	28	4	1	0	1	0	1	0	21	3	0	
	1730	"	1015.2	998.9	..	22.8	15.6	9.4	11.8	43	..	0.4	..	3.3	0	0	29	11	2	1	1	0	2	0	12	2	0	
Agra	0830	251	1019.0	989.7	+0.3	17.2	12.8	8.6	11.2	58	-2	1.0	-0.1	0.5	0	0	4	1	2	0	0	0	1	0	0	27	0	
	1730	"	1014.7	986.1	..	23.7	16.9	11.6	14.3	47	..	1.2	..	1.2	0	0	21	8	1	4	2	0	0	0	6	10	0	
Agra (Aerodrome)	0830	169	1019.1	999.0	+0.4	13.6	9.9	5.9	9.2	59	-3	0.5	-0.9	1.9	0	1	8	1	1	1	0	1	3	0	2	22	0	
	1730	"	1015.1	995.8	..	22.2	14.3	8.1	8.8	41	..	0.8	..	0.4	0	0	4	0	1	0	0	0	0	0	3	27	0	
	0530	168	1017.2	996.5	..	9.2	7.6	5.6	9.2	79	..	1.2	..	..	0	0	7	1	0	0	0	0	1	4	1	24	0
	0830	"	1019.0	998.5	..	12.2	9.4	6.0	9.6	67	..	1.7	..	..	0	1	19	0	1	2	1	1	0	10	5	11	0
Mainpuri	1130	"	1018.4	998.6	..	21.5	13.7	6.6	9.6	37	..	1.6	..	..	0	2	27	2	3	1	4	3	0	5	11	2	0
	1730	"	1015.3	995.6	..	19.5	13.6	8.1	10.9	46	..	2.6	..	..	0	0	22	3	0	2	1	0	0	7	9	9	0
	2330	"	1017.4	997.0	..	11.8	9.6	6.8	10.1	73	..	1.2	..	..	0	0	7	0	1	0	0	1	0	2	3	24	0
	0830	157	1017.2	998.3	-1.3	12.2	9.9	6.9	10.5	71	0	0.8	-0.6	..	0	0	14	0	0	0	1	0	0	8	5	17	0	
Aligarh	1730	"	1014.8	996.6	..	20.9	15.6	10.9	13.7	54	..	1.2	..	0.2	0	0	2	0	0	0	0	0	0	0	1	1	29	0
	0830	187	1018.8	996.3	..	11.3	8.6	5.5	8.3	68	+6	1.9	+0.5	1.7	0	0	15	1	0	2	0	0	0	0	9	3	16	0
Bareilly	1730	"	1015.3	993.6	..	20.9	14.6	9.1	11.3	48	..	2.3	..	1.2	0	0	11	3	0	1	0	0	0	0	5	2	20	0
	0830	173	1017.9	997.3	-0.2	12.9	10.7	8.3	11.0	74	-7	1.2	-0.2	1.2	0	0	9	0	0	2	0	0	0	0	6	1	22	0
Bareilly (P.B.O)	1730	"	1014.2	994.1	..	19.3	14.6	9.8	12.9	56	..	2.3	..	0.6	0	0	5	0	0	0	0	0	0	0	4	1	26	0
	0230	172	1015.6	995.1	..	12.2	10.2	8.5	10.5	79	..	1.1	..	2.0	0	0	14	3	0	0	0	0	0	0	7	4	17	0
	0530	"	1015.8	995.2	..	10.8	9.0	7.9	10.3	80	..	0.8	..	2.7	0	0	15	1	1	1	0	0	0	6	6	16	0	
	1130	"	1017.5	997.3	..	18.9	14.5	11.3	12.9	61	..	1.4	..	5.8	0	0	28	0	3	1	1	0	3	5	15	3	0	
Meerut	2330	"	1016.4	995.9	..	13.4	11.3	9.6	11.4	78	..	1.3	..	1.6	0	0	13	0	0	1	1	0	0	8	3	18	0	
	0830	222	1018.8	992.4	+0.4	13.5	10.8	6.8	10.1	65	-10	1.0	-0.4	2.0	0	0	14	0	0	1	0	0	0	11	2	17	0	
Najibabad	0830	270	1018.3	985.9	..	9.0	8.3	7.3	10.5	89	..	0.8	..	1.5	0	0	12	0	3	0	0	0	0	0	9	19	0	
	1730	"	1015.5	984.5	..	19.8	14.8	10.4	12.8	55	..	0.7	..	0.9	0	0	9	0	0	0	1	0	0	0	8	22	0	
Rooskee	0630	274	1018.4	985.8	0	11.4	9.5	7.6	10.5	77	-5	2.4	+0.6	0.3	0	0	3	0	0	0	0	0	0	0	0	3	28	0
	1730	"	1015.1	983.4	..	18.8	13.6	8.7	11.3	52	..	3.1	..	0.4	0	0	4	0	0	0	0	0	0	0	1	3	27	0
Dehra Dun	0530	682	1017.6	937.8	..	8.6	7.1	5.5	8.8	80	..	1.3	..	2.8	0	0	21	13	7	1	0	0	0	0	0	10	0	
	0830	"	1018.6	939.5	+0.2	11.1	8.6	5.8	9.4	71	-4	1.2	-1.3	1.5	0	0	11	6	3	0	0	0	0	2	0	20	0	
	1130	"	1017.0	940.0	..	18.7	12.6	7.2	10.1	48	..	1.4	..	2.8	0	0	26	0	0	0	5	8	6	5	2	5	0	
	1730	"	1015.1	937.7	..	16.6	12.6	9.1	11.9	62	..	1.8	..	0.2	0	0	2	1	0	0	0	1	0	0	0	29	0	
Punjab (India) (Includ- ing Delhi) New Delhi	2330	"	1017.5	938.7	..	11.5	8.8	6.7	9.4	73	..	0.4	..	2.1	0	0	17	13	3	0	0	0	0	0	0	1	14	0
	0230	216	1017.1	991.1	..	10.5	8.1	5.2	8.8																			

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10,—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in ft. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Punjab (India) Including Delhi—Contd. New Delhi Palam (Aerodrome)—Contd.	0530	233	1017.1	989.2	..	9.3	7.3	5.0	8.7	74	..	1.1	..	..	0	0	19	0	0	3	1	1	11	2	1	12	0
	0830	..	1018.9	991.0	..	10.9	8.3	5.6	9.0	69	..	2.3	..	..	0	1	19	0	1	2	0	3	10	4	0	11	0
	1130	..	1018.6	991.6	..	19.8	13.8	8.2	11.1	47	..	2.1	..	..	0	4	25	1	1	1	3	3	3	12	6	1	0
	1430	..	1015.6	988.9	..	22.8	15.5	9.3	11.9	42	..	2.2	..	..	0	9	22	2	2	1	4	0	3	9	10	0	0
	1730	..	1015.2	988.4	..	20.5	14.5	8.9	11.8	48	..	2.3	..	..	0	1	29	5	2	1	4	0	1	6	11	1	0
	2030	..	1016.7	989.7	..	15.7	11.8	7.8	10.8	59	..	1.5	..	..	0	0	27	4	4	3	1	1	2	6	6	4	0
2330	..	1017.4	989.9	..	13.2	10.2	6.9	10.2	66	..	1.2	..	..	0	0	23	2	2	3	2	1	4	5	4	8	0	
Hisar	0530	221	1018.0	991.6	..	11.0	9.1	6.9	10.1	77	..	1.3	..	3.4	0	0	28	1	6	1	4	0	6	3	7	3	0	
	0830	..	1019.2	992.5	+0.2	9.1	7.3	4.8	8.4	76	+7	2.0	+0.3	3.6	0	0	26	1	1	2	4	1	10	5	2	5	0	
	1130	..	1018.9	993.1	..	19.8	14.1	8.9	11.5	50	..	1.5	..	5.0	0	0	31	2	0	2	7	3	4	5	8	0	0	
	1730	..	1015.9	990.2	..	19.9	14.6	10.2	12.5	54	..	2.5	..	2.7	0	0	21	3	2	3	0	0	1	8	4	10	0	
2330	..	1017.7	991.0	..	7.5	6.7	5.7	8.9	88	..	1.3	..	4.0	0	0	28	1	6	1	4	0	6	3	7	0	0		
Karnal	0830	249	1018.9	989.1	..	11.5	9.1	7.1	10.4	72	..	0.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	1015.8	986.9	..	20.2	13.7	6.9	10.4	45	..	0.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Patna	0830	251	1018.8	988.8	..	10.2	8.3	6.0	9.2	76	..	1.7	..	3.1	0	0	17	0	0	0	0	0	0	1	15	15	0	
	1730	..	1016.2	987.1	..	17.4	12.5	7.7	10.2	53	..	2.1	..	2.8	0	0	16	0	0	0	0	0	0	0	3	20	0	
Amibala	0830	272	1018.7	986.1	+0.2	9.3	8.5	7.5	10.3	89	+15	1.2	-1.0	1.4	0	0	11	0	0	0	8	0	0	0	0	9	10	0
	1730	..	1015.2	983.7	..	18.6	14.0	10.2	12.5	58	..	1.3	..	2.3	0	0	21	0	1	0	11	0	0	0	0	9	10	0
Ambala (P.B.O.)	0230	278	1016.6	983.5	..	11.0	9.1	7.3	10.1	78	..	0.8	..	4.3	0	0	19	3	0	1	0	0	0	4	5	18	0	
	0530	..	1016.6	983.3	..	9.3	8.0	6.7	9.7	84	..	1.0	..	3.2	0	0	13	3	0	1	0	0	2	5	9	6	0	
	1130	..	1018.1	985.8	..	18.3	13.1	9.0	10.8	55	..	1.6	..	7.8	0	0	25	1	1	2	5	0	2	5	9	6	0	
	2330	..	1017.1	984.2	..	12.3	9.9	7.8	10.1	74	..	0.7	..	4.8	0	0	22	4	1	3	0	0	1	4	9	9	0	
Ambala (Aerodrome)	0530	273	1016.5	983.7	..	6.5	6.1	5.5	6.6	93	..	1.1	..	..	0	0	8	0	0	0	0	0	0	4	4	23	0
	0830	..	1018.3	985.3	..	8.5	7.5	6.4	9.4	88	..	1.7	..	..	0	1	12	0	0	2	1	0	0	3	7	18	0
	1130	..	1017.9	986.1	..	18.5	12.8	7.3	9.8	48	..	1.9	..	..	0	7	18	1	0	2	4	1	0	8	9	6	0
	1730	..	1014.9	983.1	..	18.3	12.8	7.3	10.3	49	..	2.0	..	..	0	2	18	0	0	0	1	0	0	10	9	11	0
	2330	..	1017.4	984.6	..	9.5	8.3	6.8	10.1	81	..	0.9	..	..	0	0	13	0	0	0	0	0	1	6	6	18	0
Chandigarh	0830	347	1017.9	977.1	..	13.4	9.9	6.1	9.6	63	..	0.5	..	1.0	0	0	11	0	5	1	3	0	0	0	2	0	1	28
	1730	..	1015.0	974.3	..	18.7	12.8	7.4	9.9	49	..	0.4	..	0.4	0	0	3	0	0	0	4	0	1	1	11	14	0	
Ludhiana	0830	247	1018.8	989.2	+0.1	10.3	8.5	6.7	9.9	78	+3	0.6	-1.5	1.8	0	0	17	0	0	0	4	0	1	1	8	14	0	
	1730	..	1015.7	986.9	..	17.4	13.5	9.3	12.2	57	..	1.5	..	2.0	0	0	17	2	2	0	1	0	1	3	8	14	0	
Halwara (Aerodrome)	0830	246	1018.9	989.8	..	8.4	7.4	6.4	9.7	87	..	1.8	..	..	0	1	9	1	0	0	2	0	1	1	5	21	0
	1730	..	1016.1	987.9	..	17.3	12.8	8.5	11.2	57	..	2.1	..	..	0	0	21	1	1	1	0	0	4	14	10	0	
Jhatinda	0830	..	..	..	..	12.8	10.0	7.0	10.1	69	..	0.7	..	3.3	0	0	22	3	1	1	2	2	3	2	8	9	0
	*1730	..	..	..	..	20.8	14.0	7.3	10.6	46	..	1.3	..	4.7	0	0	28	2	0	0	2	1	1	0	22	2	0
Ferozepur	0830	200	1018.7	994.4	..	8.7	7.3	6.0	9.3	85	..	0.9	..	0.1	0	0	2	0	1	0	0	0	0	0	1	29	0	
	1730	..	1015.4	992.1	..	17.8	13.5	10.2	12.2	69	..	1.2	..	0.6	0	0	5	0	1	0	0	0	1	0	3	26	0	
Amritsar	0530	234	1017.6	989.1	..	6.4	5.8	5.0	8.8	92	..	0.6	..	1.8	0	0	13	1	2	1	1	0	2	2	5	20	0	
	0830	..	1019.0	990.7	..	6.8	6.1	5.3	10.4	90	..	1.6	..	1.5	0	0	11	1	0	0	1	0	2	2	9	8	0	
	1130	..	1019.1	991.6	..	16.9	12.0	6.9	9.7	52	..	1.6	..	5.1	0	2	21	4	2	2	3	0	0	3	9	8	0	
	1730	..	1016.1	988.7	..	17.5	12.6	7.8	10.4	53	..	2.6	..	3.9	0	1	20	6	1	0	0	1	0	3	10	10	0	
Pathankot (Aerodrome)	0830	312	1018.5	981.3	..	9.9	8.4	6.7	10.1	81	..	2.0	..	1.9	0	0	18	4	7	1	3	0	1	0	2	13	0	
	1130	..	1018.1	982.0	..	18.4	12.7	7.0	9.8	48	..	2.2	..	3.7	0	0	25	1	0	1	4	3	10	4	2	6	0	
	1730	..	1015.7	979.5	..	17.6	13.0	8.8	11.2	57	..	2.8	..	2.8	0	0	26	1	2	0	0	1	6	14	2	5	0	
Adampur (Aerodrome). (R)	0530	283	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(R)	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(R)	2330	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Himachal Pradesh Bilaspur	0830	493	1021.3	962.2	..	5.6	5.3	5.0	8.7	96	..	4.5	..	0.5	0	0	6	1	2	2	0	2	0	0	0	25	0	
	1730	..	1045.6	959.0	..	17.1	11.9	6.9	9.3	52	..	1.4	..	2.5	0	0	22	1	0	2	6	12	1	0	0	9	0	
Mandi	0830	761	1021.4	931.6	..	4.7	4.2	3.7	7.7	93	..	2.6	..	0.4	0	0	4	0	0	0								

Division and station	Hour of observation I. S. T.	Height of barometer when above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Okta)		Mean wind speed Km. per hour	Wind speed (Km. p.h.)			No. of observations									
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
			19	20	21	22	23	24				25	26		27	28											
Jammu and Kashmir —Contd. Srinagar—Contd.	1730	1587	1537.7	844.8	..	6.4	3.9	0.7	6.5	67	..	3.6	..	3.8	0	1	13	3	0	0	1	0	0	7	3	17	0
	2330	..	1547.5	845.8	..	2.3	1.6	0.8	6.2	89	..	3.4	..	2.9	0	1	9	1	0	0	3	0	1	4	1	21	0
Srinagar (Aerodrome)	0530	1665	1540.6	837.4	..	0.1	0.7	1.7	5.4	89	..	4.0	..	..	0	0	10	2	0	4	0	0	1	2	1	21	0
	0830	..	1550.7	838.7	..	0.2	0.4	1.4	5.5	89	..	4.6	..	..	0	0	16	4	0	0	4	1	3	1	3	15	0
	1130	..	1557.4	839.4	..	4.5	2.5	0.2	9.8	73	..	4.5	..	..	0	0	25	8	1	1	3	0	2	1	9	6	0
	1730	..	1531.3	836.8	..	5.2	2.8	0.4	5.4	69	..	3.8	..	..	0	1	20	6	3	3	1	1	0	1	6	10	0
Gulnarg (R)	0830	2655																									
(R)	1730	..																									
Dras (R)	0830	3066																									
Leh	0530	3514	3117.9	665.7	..	-8.8	-11.3	-19.3	1.1	38	..	2.2	..	5.2	0	0	22	6	15	0	0	1	0	0	0	9	0
	0830	..	3127.2	666.7	+0.2	-6.8	-9.8	-18.9	1.1	34	-24	3.4	-1.2	3.9	0	0	19	3	14	0	0	1	1	0	0	12	0
	1730	..	3091.0	664.2	..	-0.5	-4.3	-12.3	2.3	42	..	3.1	..	4.7	0	0	21	1	1	0	0	6	11	1	1	10	0
Skardu (R)	0830	2288																									
(R)	1730	..																									
Gilgit (R)	0830	1491																									
(R)	1730	..																									
Misgar (R)	0830	3106																									
(R)	1730	..																									
Jammu (R)	0830	..																									
Jammu (Aerodrome)	0530	292	1017.6	982.4	..	9.5	8.0	6.1	9.0	80	..	1.2	..	4.5	0	1	12		9	1	0	0	0	0	2	18	0
	0830	..	1018.7	983.7	..	10.9	8.6	5.9	9.2	73	..	2.0	..	6.2	0	0	26	1	20	4	0	0	0	0	1	5	0
	1130	..	1018.8	984.7	..	17.6	12.4	7.3	10.0	52	..	2.6	..	5.5	0	0	21	2	5	0	2	3	2	3	4	10	0
	1730	..	1016.0	981.9	..	17.8	12.8	8.4	10.7	54	..	2.9	..	4.9	0	0	22	0	1	0	2	0	4	6	9	9	0
Ujjain (West)	0530	177	1017.6	996.2	..	8.0	6.2	4.3	8.1	79	..	0.7	..	1.2	0	0	7	1	1	0	3	0	1	0	1	24	0
Sujanagar	0830	..	1018.9	997.5	..	8.2	6.6	4.3	8.5	78	+13	1.0	-0.8	1.9	0	0	17	2	1	2	5	0	2	2	3	14	0
	1130	..	1018.7	997.7	..	18.8	12.3	6.3	9.4	42	..	1.4	..	4.6	0	0	24	4	1	4	5	0	0	4	6	7	0
	1730	..	1015.7	995.3	..	20.4	13.9	7.4	11.0	44	..	1.3	..	0.7	0	0	3	0	1	0	0	0	1	0	1	28	0
	2330	..	1018.2	996.8	..	10.9	8.6	5.5	9.4	75	..	0.6	..	1.0	0	0	4	0	1	0	2	0	1	0	0	27	0
Churu	0830	256	1019.4	984.4	..	9.3	6.5	2.7	6.7	64	..	2.0	..	3.3	0	0	18	3	0	6	2	2	2	3	0	13	0
	1730	..	1015.0	981.7	..	22.4	14.1	5.7	9.4	34	..	2.3	..	5.7	0	1	23	13	3	0	0	1	0	2	5	7	0
Bikaner	0830	224	1019.3	992.3	+0.4	9.6	5.8	0.3	6.0	51	-5	0.3	-1.5	3.0	0	0	26	2	3	1	12	4	3	0	1	5	0
	1730	..	1015.4	989.6	..	22.1	12.9	3.2	7.7	29	..	0.8	..	4.1	0	0	25	3	6	0	2	0	2	0	12	6	0
Bikaner (P. B. O.)	0530	..	1017.8	990.5	..	6.5	4.8	2.4	7.4	75	..	0.7	..	1.6	0	0	8	4	2	0	0	1	0	0	1	23	0
	1130	..	1018.7	992.7	..	20.9	13.8	6.9	9.9	41	..	1.5	..	5.3	0	0	26	5	5	2	5	1	6	0	2	5	0
	2330	..	1018.2	991.3	..	11.0	8.0	4.3	8.3	64	..	1.0	..	4.0	0	0	15	6	5	0	0	0	1	0	3	16	0
Jaisalmer	0830	224	1018.3	989.6	..	11.1	6.9	2.3	7.2	49	..	1.4	..	4.0	0	0	11	5	5	0	0	0	0	1	0	20	0
	1730	..	1014.4	987.2	..	20.9	10.7	-3.6	4.5	22	..	1.5	..	13.3	0	4	21	12	9	0	0	1	1	0	2	6	0
Phalodi	0830	234	1019.2	991.1	..	11.0	7.9	3.4	8.3	61	..	2.1	..	4.6	0	0	25	1	2	5	8	1	3	5	0	6	0
	1730	..	1015.6	988.8	..	23.8	16.6	10.3	13.1	45	..	2.7	..	9.2	0	2	26	13	5	3	0	0	2	2	3	3	0
Nagaur	0830	298	1019.4	983.9	..	12.1	7.7	1.6	7.0	51	..	1.2	..	2.4	0	0	16	2	2	4	2	3	1	0	2	15	0
	1730	..	1014.6	980.6	..	23.5	14.4	4.8	8.8	31	..	1.9	..	6.1	0	0	28	9	3	1	0	1	5	2	7	3	0
Jodhpur	0230	224	1016.8	990.2	..	14.6	8.7	1.0	6.1	38	..	0.6	..	9.3	0	1	27	11	16	0	1	0	0	0	0	3	0
	0530	..	1016.8	990.2	..	12.9	7.8	0.6	6.6	44	..	1.0	..	8.0	0	0	29	11	17	0	0	1	0	0	0	2	0
	0830	..	1018.5	991.9	+1.7	13.4	8.1	0.4	6.6	42	-8	1.7	0	7.5	0	0	27	6	19	2	0	0	0	0	0	4	0
	1130	..	1018.3	992.5	..	21.8	12.8	2.0	7.6	29	..	1.7	..	6.6	0	0	22	2	13	5	1	0	0	1	0	9	0
	1730	..	1014.5	988.9	..	24.6	14.2	2.1	7.4	25	..	2.3	..	5.4	0	0	26	7	10	2	0	0	2	2	3	5	0
	2330	..	1017.0	990.6	..	17.0	9.9	0.1	6.5	33	..	0.7	..	8.5	0	0	27	14	12	1	0	0	0	0	0	4	0
Barnier	0530	194	1016.1	993.1	..	13.6	8.7	2.1	7.2	46	..	0.9	..	6.3	0	0	29	17	2	0	0	0	1	0	9	2	0
	0830	..	1017.0	993.9	-0.4	13.2	8.6	2.7	7.6	49	-4	1.7	+0.1	5.4	0	0	31	16	8	0	0	1	1	0	5	0	0
	1130	..	1017.6	995.1	..	21.2	12.7	3.3	8.1	32	..	2.1	..	5.6	0	0	31	8	13	0	4	0	4	0	2	0	0
	1730	..	1013.7	991.5	..	24.8	14.6	4.1	8.5	27	..	2.5	..	4.2	0	0	29	9	9	0	1	3	2	1	4	2	0
	2330	..	1016.1	993.2	..	16.5	10.1	2.2	7.3	39	..	1.3	..	5.7	0	0	31	7	8	2	2	3	5	0	4	0	0
Rajasthan (East) Pilani	0830	..	..	..	..	12.4	7.8	1.5	6.8	48	..	0.3	..	10.0	0	1	30	2	1	5	7	3	6	4	3	0	0
	1730	..	..	..	..	21.5	13.6	5.9	8.9	35	..	0.9	..	10.0	0	0	31										

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, Km. per hour	Wind speed (Km. p.h.)			No. of observations									
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Rajasthan (East) —Contd. Jaipur (Sanganer Aerodrome)—Contd.	0230	390	1016.7	970.4	..	11.7	8.5	4.4	8.5	63	..	1.2	..	5.5	0	1	23	5	6	9	1	0	0	0	3	7	0
	0530	..	1017.1	970.8	..	10.3	7.5	4.2	8.1	69	..	1.0	..	5.3	0	2	19	5	5	7	0	0	0	0	4	10	0
	0830	..	1018.5	972.6	-0.5	13.1	9.5	5.2	9.0	60	+5	1.4	-0.1	5.1	0	3	14	2	3	8	0	0	0	0	4	14	0
	1130	..	1017.5	973.0	..	21.6	13.7	5.3	9.6	35	..	1.5	..	7.0	0	4	20	1	0	6	5	2	3	3	4	7	0
	1730	..	1014.4	969.9	..	21.4	13.9	5.7	9.8	37	..	2.7	..	4.5	0	1	25	2	1	4	4	2	2	4	7	5	0
Dholpur . . .	0830	176	1018.2	997.2	..	12.6	9.3	6.1	8.9	63	..	1.4	..	1.9	0	0	11	0	0	0	1	0	0	4	6	20	0
	1730	..	1014.3	993.9	..	21.4	14.4	8.0	10.8	42	..	2.4	..	1.2	0	0	11	5	2	1	1	0	0	0	2	20	0
Tonk	0830	272	1018.0	985.5	..	11.1	9.3	7.2	10.1	76	..	1.5	..	3.2	0	0	21	3	1	5	1	0	0	2	9	10	0
	1730	..	1013.7	982.6	..	21.9	16.9	12.6	15.3	56	..	2.9	..	2.9	0	0	14	1	3	2	1	0	0	2	5	17	0
Ajmer	0830	486	1019.8	962.5	0	10.3	7.9	5.1	8.6	71	+14	2.1	+0.7	1.9	0	0	17	6	3	2	0	0	0	3	3	14	0
	1730	..	1014.7	959.9	..	21.8	13.2	4.7	8.1	34	..	2.6	..	7.1	0	0	30	4	5	2	4	3	3	5	4	1	0
Kotah	0530	257	1017.5	986.7	..	12.8	10.1	7.2	10.1	70	..	0.9	..	0.3	0	0	2	0	1	0	0	0	1	0	0	29	0
	0830	..	1018.8	988.5	+0.2	15.4	11.0	6.1	9.7	55	-2	1.5	+0.1	0.6	0	0	4	0	0	0	0	0	2	2	0	27	0
	1130	..	1017.8	988.4	..	23.0	15.1	7.6	10.6	38	..	2.2	..	0.6	0	0	4	0	0	1	0	0	1	0	2	27	0
	1730	..	1014.8	985.6	..	23.7	16.0	9.0	9.7	37	..	2.1	..	0.9	0	0	9	0	0	4	0	0	0	1	4	22	0
	2330	..	1017.0	986.7	..	16.1	12.0	7.7	10.6	58	..	1.1	..	0.8	0	0	7	0	0	2	0	0	3	1	1	24	0
Chambal	0830	351	1019.1	977.7	..	12.5	10.1	7.5	10.3	73	..	2.6	..	1.5	0	0	9	4	2	1	1	0	0	0	1	22	0
	1730	..	1014.3	974.6	..	23.2	15.2	8.0	11.1	38	..	3.0	..	7.0	0	0	28	2	14	3	1	1	1	2	4	3	0
Jhalawar	0830	321	1018.8	981.1	+0.5	14.1	10.2	6.1	9.4	57	-6	1.6	+0.1	0.9	0	0	9	1	2	1	1	0	0	2	2	22	0
	1730	..	1013.6	977.5	..	25.4	15.5	6.9	9.6	29	..	1.8	..	2.0	0	0	18	5	7	1	0	0	1	2	2	13	0
Udaipur	0230	532	1017.8	949.6	..	10.2	8.8	7.2	10.2	82	..	1.2	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	0530	..	1018.2	949.8	..	9.1	7.9	6.5	9.3	85	..	1.4	..	0.2	0	0	2	0	0	0	0	0	0	1	1	29	0
	0830	..	1019.1	951.6	+0.3	13.4	10.0	6.4	10.7	64	+6	2.2	+1.2	0.3	0	0	3	3	0	0	0	0	0	0	0	28	0
	1130	..	1018.1	950.3	..	11.8	9.9	8.0	10.7	78	..	0.8	..	0.2	0	0	1	0	0	0	0	0	0	0	1	30	0
	1730	..	1013.9	948.7	..	22.4	14.6	7.8	10.8	40	..	3.0	..	1.2	0	0	10	1	0	2	1	2	2	2	0	21	0
Erinpura (Jawai Dam)	0830	295	1017.7	983.0	..	12.8	10.2	7.9	10.8	74	..	2.4	..	3.5	0	0	13	0	4	0	5	2	2	0	0	18	0
	1730	..	1013.8	980.4	..	24.7	17.2	12.1	13.5	47	..	2.8	..	2.7	0	0	14	4	6	0	0	0	1	0	3	17	0
	0230	207	1016.6	991.7	..	10.4	8.0	5.1	8.0	71	..	0.7	..	2.4	0	0	21	0	0	0	12	3	4	0	2	10	0
	0530	..	1016.9	992.0	..	9.6	7.4	4.7	8.5	73	..	0.9	..	2.9	0	0	20	1	1	0	11	1	3	0	3	11	0
	0830	..	1018.6	994.1	+0.6	13.7	9.6	4.7	8.6	55	-6	1.3	0	3.1	0	0	17	1	0	0	8	1	2	0	5	14	0
Saeoparkalan . . .	1130	..	1017.9	994.1	..	22.3	13.3	3.1	8.2	30	..	1.7	..	7.3	0	0	30	7	3	1	3	3	1	2	10	1	0
	1730	..	1014.8	991.1	..	22.0	14.0	5.8	9.3	36	..	2.2	..	3.1	0	0	22	3	8	3	1	1	0	1	5	9	0
	2330	..	1016.8	992.5	..	11.6	8.9	5.6	9.0	67	..	1.2	..	1.9	0	0	15	0	0	0	7	4	2	1	1	16	0
	0830	235	1018.8	990.9	..	13.7	10.6	7.4	10.3	67	..	2.1	..	2.3	0	0	16	2	2	1	2	7	1	0	1	15	0
	1730	..	1014.1	987.2	..	23.2	16.5	11.1	13.4	47	..	2.9	..	5.0	0	0	26	7	6	2	3	0	0	1	7	5	0
Guna	0530	478	1017.1	960.6	..	9.5	7.3	4.7	9.1	72	..	1.2	..	0.6	0	0	6	0	0	0	2	3	0	0	1	25	0
	0930	..	1018.5	963.0	+0.1	15.0	10.2	5.4	9.0	52	-14	1.5	+0.1	1.5	0	0	14	2	0	6	1	4	0	1	0	17	0
	1130	..	1016.9	963.0	..	23.2	13.7	4.6	8.8	31	..	1.8	..	3.2	0	0	26	3	1	6	6	3	2	3	2	5	0
	1730	..	1013.5	960.0	..	23.6	14.0	4.9	9.5	35	..	2.4	..	2.9	0	0	25	7	4	2	3	1	0	2	6	6	0
	2330	..	1017.1	961.4	..	13.5	9.7	5.7	9.6	60	..	1.3	..	1.6	0	0	11	0	3	1	3	2	0	1	1	20	0
Rajgarh	0830	382	1018.3	973.4	..	12.6	9.0	4.9	8.5	59	..	1.0	..	2.8	0	0	23	21	0	0	0	2	0	0	0	8	0
	1730	..	1013.4	980.5	..	25.3	15.0	4.7	8.8	27	..	1.9	..	2.2	0	0	18	15	3	0	0	0	0	0	0	13	0
Neemuch	0830	496	1019.1	961.6	+0.5	14.9	9.7	3.9	8.4	49	-4	2.4	+1.0	3.2	0	0	20	2	15	3	0	0	0	0	0	11	0
	1730	..	1014.4	958.9	..	23.9	14.0	4.4	9.0	30	..	3.0	..	6.0	0	0	27	5	11	0	1	0	3	4	2	4	0
Ratlam	0830	486	1018.4	961.8	..	14.4	10.3	6.5	9.5	59	..	2.4	..	7.7	0	0	25	2	15	7	1	0	0	0	0	6	0
	1730	..	1012.7	958.6	..	26.2	16.2	8.3	11.1	32	..	2.9	..	11.3	0	1	29	3	13	7	1	2	2	2	0	1	0
Aligarh	0830	293	1018.0	983.6	..	15.4	11.7	7.6	10.7	60	..	1.9	..	3.0	0	0	18	0	0	14	2	0	0	1	1	13	0
	1730	..	1012.8	980.0	..	27.3	16.6	6.7	10.8	28	..	1.7	..	4.0	0	0	23	1	3	7	3	0	0	5	4	8	0
Indore	0530	567	1016.4	950.6	..	12.6	9.1	5.3	9.1	62	..	1.1	..	4.0	0	0	26	1	3	8	6	4	3	0	1	5	0
	0830	..	1017.9	952.8	+0.1	16.2	11.0	5.9	9.5	51	-1	1.7	+0.3	4.5	0	0	25	0	6	8	5	5	1	0	0	6	0
	1130																										

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hours of observation I. S. T.	Height of barometer corrected above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed per hour Km.	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in ft. of nearest isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Maharashtra (Including Marathwada—contd. Parbhani—contd.)	Poona	1730	423	1011.9	965.2	..	28.3	18.1	9.9	12.2	33	..	1.9	..	7.0	0	0	30	4	12	10	2	1	0	0	1	1	0
	Poona	0530	559	1015.0	950.6	..	14.6	13.0	11.8	13.8	83	..	0.2	..	0.3	0	0	2	0	0	0	1	0	0	1	0	29	0
	Poona	0830	..	1016.7	952.9	+0.1	17.2	14.2	12.0	13.9	72	+1	0.8	0.6	0.3	0	0	3	0	1	2	0	0	0	0	0	28	0
	Poona	1130	..	1014.2	952.4	..	26.6	17.5	11.1	13.4	39	..	0.8	..	6.0	0	0	26	0	10	7	7	0	0	0	2	5	0
	Poona	1730	..	1010.0	948.9	..	28.4	18.2	11.0	13.3	35	..	1.4	..	2.5	0	0	13	2	6	3	1	0	0	0	1	18	0
	Poona	2330	..	1014.7	951.2	..	18.4	15.1	12.6	14.7	69	..	0.4	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0
	Poona (Lohagan Aerodrome)	0230	593	1014.4	916.8	..	18.3	14.1	10.3	12.5	61	..	0.3	..	0.5	0	0	3	0	0	3	0	0	0	0	0	28	0
	Poona (Lohagan Aerodrome)	0530	..	1014.6	946.9	..	16.6	13.1	9.7	12.0	65	..	0.3	..	2.4	0	0	11	2	1	7	0	0	0	1	0	20	0
Poona (Lohagan Aerodrome)	0830	..	1016.1	949.0	..	19.5	14.5	10.0	12.3	58	..	1.4	..	3.6	0	0	19	0	3	14	1	0	0	1	0	12	0	
Poona (Lohagan Aerodrome)	1130	..	1014.2	948.8	..	26.8	16.8	8.9	11.4	34	..	1.5	..	12.1	0	3	27	0	0	20	10	0	0	0	0	1	0	
Poona (Lohagan Aerodrome)	1730	..	1010.1	945.3	..	28.4	17.4	7.9	10.7	28	..	1.9	..	7.3	0	1	25	0	1	14	7	0	0	3	1	5	0	
Poona (Lohagan Aerodrome)	2330	..	1014.3	947.5	..	20.4	15.2	10.7	12.9	55	..	0.5	..	2.0	0	0	10	1	2	4	1	0	0	2	0	21	0	
Baramati	0830	551	1016.7	954.1	..	18.6	14.3	10.8	12.9	62	..	1.3	..	4.1	0	0	28	4	4	4	8	2	0	3	3	3	0	
Baramati	1730	..	1010.2	950.0	..	28.7	19.1	12.7	14.7	38	..	1.6	..	3.1	0	0	31	2	5	14	7	2	0	1	0	0	0	
Neur	0830	521	1016.4	957.0	..	18.5	14.7	11.9	13.9	66	..	1.1	..	2.5	0	0	15	3	2	6	4	0	0	0	0	0	16	0
Neur	1730	..	1010.1	953.3	..	28.9	20.4	15.4	17.5	44	..	1.6	..	5.3	0	0	26	1	3	12	4	2	3	0	1	5	0	
Sholapur	0530	479	1014.7	960.0	..	17.5	13.3	9.9	12.2	63	..	0.8	..	3.4	0	0	19	0	8	7	4	0	0	0	0	0	12	0
Sholapur	0830	..	1016.2	962.1	+0.4	21.7	15.8	11.2	13.3	52	-1	1.4	-0.2	7.8	0	0	29	0	15	0	14	0	0	0	0	0	2	0
Sholapur	1130	..	1014.4	961.4	..	27.3	18.6	12.6	14.6	41	..	2.1	..	9.5	0	0	28	0	8	6	11	2	1	0	0	3	0	
Sholapur	1730	..	1010.3	957.8	..	29.6	18.7	11.1	13.2	33	..	2.7	..	7.7	0	0	27	1	18	4	3	0	1	0	0	4	0	
Sholapur	2330	..	1014.4	960.2	..	21.2	14.9	10.0	12.3	49	..	0.4	..	8.2	0	1	29	0	14	12	4	0	0	0	0	1	0	
Miraj	0830	554	1015.2	952.8	-0.1	20.4	15.7	12.3	14.3	61	+1	2.7	+0.9	..	..	..	..	1	1	7	0	0	0	0	0	22	0
Miraj	1730	..	1009.0	948.8	..	29.4	19.1	12.1	14.1	36	..	3.7	..	..	..	..	..	1	6	12	1	0	0	0	1	10	0
Kolhapur	0530	570	1013.6	948.9	..	17.0	13.5	10.4	12.6	66	..	1.6	..	4.2	0	0	21	0	5	12	2	0	1	1	0	10	0	
Kolhapur	0830	..	1015.2	951.4	+0.1	21.2	15.3	10.6	12.8	52	-11	2.1	+0.9	0.5	0	0	29	3	17	8	0	0	0	0	1	2	0	
Kolhapur	1130	..	1013.3	950.7	..	27.3	18.7	13.2	15.2	42	..	2.6	..	17.9	0	7	24	0	13	13	2	3	0	0	0	0	0	
Kolhapur	1730	..	1009.3	947.2	..	28.8	18.0	10.3	12.5	33	..	3.3	..	13.3	0	2	29	0	17	10	1	0	0	2	1	0	0	
Vidarbha	Buldhana	0830	650	1016.2	942.9	..	19.3	13.2	7.8	10.7	48	..	0.5	..	1.6	0	0	16	0	0	0	5	0	1	0	11	14	0
Vidarbha	Buldhana	1730	..	1011.7	940.3	..	26.0	16.6	9.4	12.0	38	..	1.0	..	1.5	0	0	14	0	6	0	0	0	0	0	8	17	0
Akola	0830	282	1017.3	984.5	0	17.0	12.5	7.9	11.0	16	-1	0.6	-1.0	1.4	0	0	14	1	3	6	3	1	0	0	0	0	17	0
Akola	1130	..	1016.2	984.3	..	25.6	16.3	8.1	11.1	34	..	0.5	..	2.9	0	0	20	0	6	9	5	0	0	0	0	0	11	0
Akola	1730	..	1011.9	980.4	..	28.2	17.8	9.2	11.9	31	..	0.9	..	1.4	0	0	14	5	0	4	0	0	0	4	1	17	0	
Akola (Aerodrome)	0530	309	1015.2	978.9	..	13.8	11.0	8.1	10.9	69	..	0.1	..	2.0	0	0	19	0	2	10	7	0	0	0	0	0	12	0
Akola (Aerodrome)	2330	..	1014.8	979.2	..	19.5	14.3	9.7	12.1	51	..	0.3	..	2.1	0	0	18	0	1	6	10	1	0	0	0	0	13	0
Amravati	0830	370	1017.4	975.0	+0.1	20.9	13.9	8.1	10.9	47	-4	1.2	-0.4	7.6	0	0	28	1	20	6	1	0	0	0	0	0	3	0
Amravati	1730	..	1012.3	971.0	..	26.9	17.8	9.1	11.7	34	..	1.4	..	3.4	0	0	31	4	9	2	12	1	1	0	2	0	0	
Yestmal	0830	451	1016.4	965.0	..	20.3	13.9	7.4	10.7	45	..	2.0	..	4.1	0	0	21	1	10	7	1	0	1	1	0	10	0	
Yestmal	1730	..	1011.9	961.6	..	25.8	16.1	7.3	10.5	32	..	2.2	..	2.3	0	0	15	0	6	7	2	0	0	0	0	0	16	0
Nagpur	0230	310	1015.3	979.0	..	14.4	12.1	9.9	12.3	74	..	0.3	..	2.0	0	0	17	10	1	0	0	0	0	0	0	6	14	0
Nagpur	0530	..	1016.0	979.4	..	12.5	11.0	9.5	12.0	82	..	0.2	..	1.5	0	0	14	7	1	0	1	0	0	0	5	17	0	
Nagpur	0830	..	1017.9	981.8	+0.1	16.6	13.1	9.8	12.0	64	+2	1.2	-0.5	3.0	0	0	19	8	6	1	0	0	0	0	4	12	0	
Nagpur	1130	..	1016.4	981.3	..	25.3	17.1	10.4	12.8	40	..	1.1	..	5.5	0	1	21	1	13	8	0	0	0	0	0	9	0	
Nagpur	1730	..	1013.1	978.1	..	25.0	17.5	11.7	13.9	46	..	1.5	..	3.0	0	0	22	0	6	11	4	1	0	0	0	9	0	
Nagpur	2330	..	1015.9	979.8	..	16.1	13.2	10.4	12.9	69	..	0.6	..	1.4	0	0	11	5	3	0	0	0	0	0	3	20	0	
Gondia	0830	313	1018.3	981.8	..	15.9	12.6	9.5	14.0	66	..	1.6	..	2.1	0	0	18	0	6	1	3	0	0	0	6	13	2	
Gondia	1730	..	1013.3	978.0	..	25.3	16.8	9.3	12.4	37	..	1.8	..	1.3	0	0	10	2	1	0	1	1	1	0	2	21	2	
Brahmapuri	0830	229	1017.3	990.4	..	16.2	13.3	10.8	13.1	71	..	1.0	..	2.2	0	0	19	8	7	0	0	0	0	0	4	12	0	
Brahmapuri	1730	..	1012.6	986.8																								

Division and station	Hour of observation I.S.I.	Height of barometer column above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)			Mean wind speed Km. per hour	Wind speed (Km. p.h.)			No. of observations										
			At mean sea level or height in g.p.m. of nearest standard is. baric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal	62 or more		20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable		
																												Wind direction	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Coastal Andhra Pradesh																													
<i>Contd.</i>																													
Ongole	0830	12	1015.3	1014.0	..	23.3	20.7	19.2	22.4	79	..	5.1	..	4.3	0	0	31	6	12	2	2	0	0	0	0	9	0	0	
	1730	..	1012.0	1010.7	..	26.0	21.4	18.6	21.4	64	..	5.5	..	5.1	0	0	31	0	14	4	12	0	0	0	0	1	0	0	
Rentachintala	0830	106	1016.4	1004.2	..	22.4	19.2	17.2	19.9	74	+3	4.5	+1.3	1.4	0	0	14	1	0	3	5	0	1	2	2	17	0	0	
	1730	..	1012.0	1000.1	..	28.5	20.2	14.9	17.2	45	..	4.1	..	2.8	0	0	27	9	1	11	3	1	1	0	1	4	0	0	
Gannavaram	0230	24	1013.3	1010.5	..	20.7	19.6	18.9	21.8	89	..	2.3	..	6.0	0	1	25	4	10	9	3	0	0	0	0	0	5	0	
	0530	..	1013.7	1010.8	..	20.1	19.2	18.6	21.4	91	..	2.6	..	5.5	0	1	20	5	11	5	0	0	0	0	0	0	10	0	
	0830	..	1016.0	1013.2	..	23.3	20.4	18.6	21.4	75	..	3.6	..	10.0	0	1	29	4	12	12	0	0	0	0	0	2	1	0	
	1130	..	1015.2	1012.5	..	27.0	21.3	18.0	20.6	58	..	4.4	..	12.1	0	4	26	2	6	16	6	0	0	0	0	0	1	0	
	1730	..	1012.3	1009.6	..	26.4	21.0	17.9	20.5	60	..	4.0	..	9.2	0	3	27	2	1	15	12	0	0	0	0	0	1	0	
	2330	..	1014.6	1011.8	..	21.8	20.3	19.4	22.5	86	..	2.7	..	5.4	0	1	20	0	3	16	2	0	0	0	0	0	10	0	
Modilipatam	0530	3	1014.1	1013.7	..	21.0	20.0	19.5	22.7	91	..	2.9	..	5.8	0	1	28	1	14	9	5	0	0	0	0	0	2	0	
	0830	..	1015.9	1015.5	-0.4	22.8	20.6	19.4	22.5	81	+3	2.8	+0.8	6.6	0	0	31	8	22	1	0	0	0	0	0	0	0	0	
	1130	..	1015.2	1014.9	..	26.2	21.8	19.3	22.4	66	..	4.0	..	12.1	0	2	29	2	15	11	3	0	0	0	0	0	0	0	
	1730	..	1012.6	1012.2	..	25.0	21.6	19.6	22.8	72	..	3.1	..	9.6	0	0	30	0	1	8	14	7	0	0	0	0	1	0	
	2330	..	1014.5	1014.1	..	22.6	20.9	19.7	22.9	84	..	2.8	..	6.2	0	30	1	0	10	10	9	2	0	0	0	0	0	0	
Nadavolu	0830	12	1016.2	1014.7	..	21.9	19.7	18.3	21.0	81	..	4.1	..	8.5	0	0	31	13	15	2	0	0	0	0	0	1	0	0	
	1730	..	1012.5	1011.1	..	22.8	20.8	17.7	20.2	61	..	4.7	..	9.3	0	1	30	0	0	23	8	0	0	0	0	0	0	0	
Kakinada	0830	8	1016.4	1015.5	+0.1	24.4	20.3	17.6	20.1	67	-5	2.7	+0.1	11.8	0	2	29	0	31	0	0	0	0	0	0	0	0	0	
	1730	..	1013.1	1012.2	..	24.6	20.7	18.3	21.0	68	..	3.0	..	11.4	0	1	30	0	20	1	10	0	0	0	0	0	0	0	
Visakhapatam	0230	3	1014.0	1013.6	..	19.4	18.1	17.4	19.9	87	..	2.3	..	1.0	0	0	4	0	0	4	0	0	0	0	0	0	27	0	
	0530	..	1014.3	1013.9	..	18.2	17.1	16.4	18.6	90	..	2.5	..	1.6	0	0	8	0	2	3	0	0	0	0	0	3	23	0	
	0830	..	1016.7	1016.3	+0.2	23.0	19.5	17.3	19.7	71	+4	3.0	+0.3	3.2	0	0	16	2	2	6	1	0	3	0	1	15	1		
	1130	..	1015.7	1015.3	..	27.3	20.7	16.5	18.8	53	..	3.5	..	9.4	0	2	26	0	6	14	7	0	0	0	0	0	3	1	
	1730	..	1013.4	1013.0	..	24.1	20.2	17.9	24.0	68	..	3.5	..	10.6	0	4	27	0	0	28	3	0	0	0	0	0	0	0	
	2330	..	1015.4	1015.0	..	20.6	18.9	17.7	20.2	85	..	2.5	..	2.4	0	0	10	1	2	6	1	0	0	0	0	0	21	0	
Calingapatam	0830	6	..	..	..	..	..	..	..	..	..	2.0	+0.1	4.4	0	0	31	2	4	6	4	0	2	1	12	0	0	
	1730	..	..	..	..	..	..	..	..	..	..	2.3	..	10.6	0	0	31	0	7	15	5	0	3	0	1	0	0	
Telangana																													
Ramagundam	0830	156	1016.6	998.5	..	20.0	16.1	13.0	18.3	64	..	2.4	..	4.1	0	0	23	13	3	2	2	0	1	0	2	8	0	0	
	1730	..	1012.2	994.4	..	27.8	18.5	11.3	13.4	37	..	3.0	..	6.5	0	0	31	10	18	2	1	0	0	0	0	0	0	0	
Nizamabad	0830	381	1016.4	973.1	+0.6	21.3	16.5	12.8	14.8	59	-8	1.2	-0.4	..	0	0	0	0	0	0	0	0	0	0	0	0	31	0	
	1730	..	1011.9	969.5	..	26.9	17.8	10.5	12.7	37	..	2.1	..	0.9	0	0	8	1	5	1	0	0	0	0	0	0	23	0	
Mahabubnagar	0830	505	1015.5	958.6	..	21.5	17.2	14.3	16.3	64	..	4.1	..	7.9	0	0	31	0	16	13	2	0	0	0	0	0	0	0	
	1730	..	1011.0	955.2	..	26.7	17.6	11.0	13.1	39	..	3.5	..	5.8	0	0	28	0	13	13	2	0	0	0	0	0	3	0	
Hyderabad (B. Oupet Aerodrome)	0230	545	1014.3	952.3	..	16.3	13.9	12.1	14.1	77	..	1.7	..	2.7	0	0	11	1	3	4	3	0	0	0	0	0	20	0	
	0530	..	1015.1	952.6	..	14.8	13.4	12.3	14.3	85	..	1.7	..	2.2	0	0	9	0	4	2	3	0	0	0	0	0	22	0	
	0830	..	1016.6	954.8	+0.3	19.1	15.8	13.3	15.3	71	+5	4.1	+2.0	4.8	0	1	16	1	6	5	5	0	0	0	0	0	14	0	
	1130	..	1014.8	954.4	..	25.2	17.3	11.3	13.4	43	..	3.3	..	11.0	0	0	30	1	6	14	9	0	0	0	0	0	1	0	
	1730	..	1011.7	951.5	..	25.8	16.8	10.0	12.3	39	..	2.9	..	9.9	0	1	29	1	12	11	6	0	0	0	0	0	1	0	
	2330	..	1015.6	953.6	..	18.0	14.7	12.2	14.2	69	..	1.7	..	2.9	0	0	15	0	3	3	4	0	0	0	0	0	16	0	
Hakimpet	0530	613	1014.5	944.9	..	16.8	14.3	12.4	14.4	76	..	3.0	..	3.8	0	0	28	2	10	10	6	0	0	0	0	0	3	0	
	0830	..	1015.7	946.7	..	20.0	16.3	13.6	15.6	68	..	4.1	..	7.8	0	0	31	1	9	12	9	0	0	0	0	0	0	0	
	1130	..	1014.3	946.6	..	25.0	17.8	12.7	14.7	48	..	3.7	..	12.1	0	1	30	1	14	9	6	1	0	0	0	0	0	0	
	1730	..	1011.7	944.2	..	25.0	17.3	11.7	13.7	45	..	3.0	..	9.8	0	0	31	0	18	9	4	0	0	0	0	0	0	0	
Hanamkonda	0830	269	1016.7	985.9	-0.1	21.0	17.2	14.3	16.3	67	-3	2.0	-0.2	4.4	0	0	29	6	4	3	7	6	0	2	1	2	0	0	
	1730	..	1012.6	982.4	..	26.9	18.5	12.3	14.3	42	..	1.6	..	5.5	0	0	31	10	17	2	0	2	0	0	0	0	0	0	
Bhadrachallam	0830	111	1017.2	1004.3	..	21.1	18.8	16.8	19.1	76	..	4.3	..	2.0	0	0	19	2	13	3	1	0	0						

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer (corrected) above mean sea level in metres	Mean pressure in millibars.			Mean temperature in °C.				Relative humidity %	Departure from normal	Cloud amount (Oktas)			Wind speed (km p.h.)			No. of observations											
			At mean sea level or height in metres of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal	Mean wind speed, km. per hour	Wind direction			N	NE	E	SE	S	SW	W	NW	Calm	Variable		
															62 or more	20 to 61	1 to 19											19	20	21	22	23	24	25	26	27	28
Rayalaseema—Contd.																													
Kurnool	0830	281	1016.2	983.8	+0.2	20.3	17.7	15.9	18.1	76	+5	2.9	+1.1	2.0	0	0	20	0	0	18	2	0	0	0	0	0	0	11	0
	1730	"	1010.7	977.4	"	29.5	20.4	14.2	16.2	41	"	3.4	"	4.4	0	0	29	0	1	27	1	0	0	0	0	0	0	2	0
Madras State Palayamcottai	0830	51	1014.0	1003.2	"	24.7	21.9	20.4	24.0	78	"	5.0	"	7.4	0	0	31	24	2	0	0	0	0	0	0	5	0	0	
	1730	"	1010.1	1004.4	"	27.5	22.9	20.5	24.1	67	"	5.1	"	6.1	0	0	31	16	9	3	1	0	0	0	1	1	0	0	
Tuticorin	0830	4	1014.7	1013.3	"	25.6	22.5	21.1	25.0	79	"	4.9	"	16.8	0	8	23	16	12	0	0	0	0	0	0	3	0	0	
	1730	"	1010.2	1009.8	"	27.1	24.2	22.7	27.6	77	"	3.9	"	"	0	22	9	1	20	10	0	0	0	0	0	0	0	0	
Pamban	0830	11	1013.5	1012.2	+0.2	25.5	23.9	23.1	28.3	87	+2	3.0	+0.1	3.6	0	0	23	11	5	0	0	0	0	0	1	6	8	0	
	1730	"	1010.6	1009.3	"	26.1	23.9	22.8	27.7	83	"	3.9	"	9.1	0	2	26	17	7	1	0	0	0	0	0	3	3	0	
Tondi	0830	5	1013.8	1013.2	"	24.1	22.0	20.8	24.6	32	"	4.8	"	11.5	0	0	24	14	2	0	0	0	0	0	0	8	7	0	
	1730	"	1010.5	1009.9	"	26.9	23.5	21.7	25.9	74	"	5.0	"	17.3	0	10	19	5	22	2	0	0	0	0	0	0	2	0	
Mathurai	0830	133	1014.3	999.0	+0.1	24.1	21.2	19.6	22.8	76	-1	5.9	+1.7	4.4	0	0	31	0	21	0	0	0	0	0	0	10	0	0	
	1730	"	1010.2	995.3	"	27.8	22.6	19.8	23.1	62	"	6.7	"	7.5	0	0	31	0	31	0	0	0	0	0	0	0	0	0	
Mathurai (Aerodrome)	0530	131	1012.3	997.0	"	21.5	20.4	19.8	23.1	90	"	3.8	"	6.1	0	0	27	12	15	0	0	0	0	0	0	0	4	0	
	0830	"	1014.4	999.2	"	24.0	21.4	20.0	23.4	78	"	4.1	"	10.3	0	1	29	16	13	0	0	0	0	1	0	0	1	0	
	1130	"	1013.6	998.6	"	27.3	22.2	19.4	22.5	63	"	3.9	"	14.4	0	5	26	8	21	2	0	0	0	0	0	0	0	0	
	1730	"	1010.5	995.5	"	27.1	22.2	19.5	22.7	64	"	4.6	"	10.8	0	0	31	0	22	8	0	0	1	0	0	0	0	0	
Nagapattinam	0830	9	1014.2	1013.1	+0.4	24.4	22.6	21.7	25.9	85	+4	5.0	0	13.7	0	6	25	10	9	1	0	0	0	2	9	0	0	0	
	1730	"	1011.1	1010.0	"	26.1	23.2	21.7	25.9	77	"	5.3	"	20.9	0	15	15	9	20	1	0	0	0	0	0	1	0		
Tiruchirapalli	0230	88	1011.9	1001.8	"	22.3	21.1	20.3	23.8	89	"	3.2	"	10.1	0	0	29	5	17	6	0	0	0	0	1	2	0		
	0530	"	1012.3	1002.1	"	21.7	20.5	19.8	23.1	89	"	3.8	"	10.0	0	1	28	8	12	4	0	0	1	0	4	2	0		
	0830	"	1014.5	1004.4	-0.1	23.8	21.2	19.8	23.1	79	-1	4.1	+0.3	12.8	0	2	23	8	16	2	0	0	0	1	3	1	0		
	1130	"	1013.7	1003.8	"	26.3	22.0	19.4	22.5	64	"	4.7	"	18.5	0	12	19	7	18	4	0	0	0	0	2	0	0		
	1730	"	1010.8	1000.9	"	26.6	22.4	20.1	23.5	68	"	4.9	"	13.1	0	4	26	1	20	9	0	0	0	0	0	1	0		
	2330	"	1013.4	1003.3	"	22.9	21.6	20.9	24.7	89	"	3.5	"	5.4	0	0	30	2	20	8	0	0	0	0	0	1	0		
Coimbatore	0830	409	1014.8	968.5	+0.3	21.7	19.7	18.6	21.4	82	+3	5.7	+1.9	13.1	0	0	31	1	9	12	6	0	0	1	2	0	0		
	1730	"	1009.8	964.8	"	26.4	20.5	16.8	19.1	57	"	5.1	"	11.7	0	0	31	1	10	14	6	0	0	0	0	0	0		
Coimbatore (Peelamedu Aerodrome)	0530	398	1012.9	967.3	"	19.4	18.6	18.2	20.9	93	"	4.6	"	6.1	0	0	23	10	10	3	0	0	0	3	2	3	0		
	0830	"	1014.8	969.5	"	21.7	19.8	18.6	21.4	83	"	4.6	"	9.1	0	1	29	1	20	7	0	0	0	2	0	1	0		
	1130	"	1013.6	968.9	"	25.6	20.3	17.0	19.4	60	"	4.6	"	18.1	0	11	20	0	20	11	0	0	0	0	0	0	0		
	1730	"	1010.0	965.6	"	26.5	20.4	16.5	18.8	56	"	4.0	"	16.3	0	6	25	0	11	20	0	0	0	0	0	0	0		
	2330	"	1013.5	968.2	"	21.5	19.5	18.2	20.9	81	"	2.8	"	2.9	0	0	16	0	6	8	0	0	0	0	1	15	1		
	0530	278	1012.7	980.0	"	20.0	18.7	17.3	20.4	87	"	4.3	"	0.9	0	0	8	0	6	2	0	0	0	0	0	0	23	0	
Salem	0830	"	1014.7	983.0	+0.1	22.9	19.9	18.2	20.9	75	0	4.1	+1.0	5.5	0	0	23	2	10	10	0	0	0	0	1	8	0		
	1130	"	1013.3	982.2	"	27.3	21.5	18.1	20.8	58	"	5.5	"	5.1	0	0	28	0	10	13	2	0	0	2	1	3	0		
	1730	"	1010.3	979.2	"	26.9	21.1	17.6	20.1	58	"	4.8	"	5.3	0	0	28	0	6	21	1	0	0	0	0	3	0		
	2330	"	1013.3	981.7	"	22.7	19.9	18.2	20.9	76	"	3.4	"	5.5	0	0	22	0	5	17	0	0	0	0	0	9	0		
Kallakurichi	0830	127	1014.8	1000.2	"	23.3	21.2	20.0	23.4	81	"	4.4	"	8.0	0	0	29	21	1	0	1	0	0	0	6	2	0		
	1730	"	1010.8	996.5	"	26.6	22.2	19.8	23.1	67	"	4.2	"	7.2	0	0	27	11	14	1	0	0	0	1	0	4	0		
Cuddalore	0530	12	1011.9	1010.5	"	22.5	21.6	21.2	25.2	93	"	4.8	"	1.9	0	0	12	2	10	0	0	0	0	0	0	0	19	0	
	0830	"	1014.3	1012.9	-0.2	23.7	21.9	21.1	25.0	85	+2	5.0	+0.8	3.0	0	0	20	12	6	0	0	0	0	0	0	2	11	0	
	1130	"	1013.9	1012.5	"	27.0	23.1	21.1	25.0	70	"	4.6	"	6.3	0	0	28	7	21	0	0	0	0	0	0	3	0		
	1730	"	1011.3	1009.9	"	25.9	22.8	21.1	25.0	76	"	4.9	"	8.0	0	0	23	9	19	0	0	0	0	0	0	3	0		
Tirupattur	2330	"	1013.5	1012.1	"	24.1	22.2	21.1	25.0	84	"	3.7	"	1.8	0	0	14	5	9	0	0	0	0	0	0	17	0		
	0830	390	1015.5	970.9	"	19.7	18.7	18.0	20.6	91	"	5.7	"	1.0	0	0	8	5	1	0	0	2	0	0	0	23	0		
	1730	"	1010.8	967.3	"	25.7	20.7	17.7	20.2	62	"	5.7	"	5.3	0	0	29	22	0	0	0	6	0	1	0	2	0		
	0530	214	1013.3	983.6	"	19.4	18.8	18.5	21.3	94	"	3.6	"	1.7	0	0	14	0	8	6	0	0	0	0	0	17	0		
Vellore	0830	"	1015.4	990.7	+0.3	21.5	19.9	18.9	21.8	85	0	4.5	+1.2	0.7	0	0	6	4	2	0	0	0	0	0	0	25	0		
	1130	"	1014.5	990.2	"	25.8	21.0	18.3	21.0	64	"	5.4	"	8.7	0	0	30	4	22	3	1	0	0	0	1	0			
	1730	"	1011.0	986.9	"	26.1	20.8	17.6	20.1	60	"	4.6	"	7.5	0	0	29	1	21	6	1	0	0	0	0	2	0		
	2330	"	1014.4	990.0	"	23.2	20.5	18.9	21.8	77	"	2.8	"	6.5	0	0	29	1	22	5	1	0	0	0	0	2	0		

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C.				Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed km. per hour	Wind speed (Km.p.h.)			No. of observations											
			At mean sea level or height in g. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	N	NE	E	SE	S	SW	W	NW	Calm	Variable		
																												Wind direction	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Madras State—Contd.																													
Madras Nungambakkam	0830	6	1014.7	1014.0	..	24.1	22.4	21.4	25.5	85	..	4.1	..	4.3	0	0	29	6	4	1	0	0	0	0	1	17	2	0	
Coastal Mysore																													
Karwar	0830	4	1013.8	1013.3	+0.1	24.6	20.7	18.4	21.1	69	..	8.0	..	3.2	0	0	23	1	6	12	3	0	0	0	1	0	8	0	
	1730	..	1009.7	1009.2	..	29.3	24.0	21.5	25.6	63	..	8.9	..	5.0	0	0	19	0	0	0	1	0	0	0	3	15	12	0	
Honavar	0830	26	1013.5	1010.5	+0.1	23.5	19.6	17.0	19.4	68	+6	3.8	+0.8	4.2	0	0	29	0	6	23	0	0	0	0	0	0	2	0	
	1730	..	1009.6	1006.6	..	30.2	23.3	19.3	22.4	55	..	3.8	..	5.3	0	0	30	3	1	0	1	0	8	14	3	1	0		
Mangalore	0830	22	1013.1	1010.6	-0.2	25.6	21.3	18.8	21.7	66	-1	3.4	+1.0	6.3	0	0	31	0	4	24	3	0	0	0	0	0	0	0	
	1730	..	1009.5	1007.0	..	28.6	23.5	20.8	24.6	63	..	4.2	..	6.3	0	0	31	4	0	1	0	1	6	6	13	0	0		
(Mangalore Bajpe Aerodrome)	0230	102	1011.0	999.3	..	23.0	21.3	20.3	23.8	85	..	2.4	..	3.9	0	0	18	1	0	13	4	0	0	0	0	0	13	0	
	0530	..	1011.1	999.4	..	22.1	20.6	19.6	22.8	86	..	2.6	..	5.7	0	0	28	1	0	22	5	0	0	0	0	0	0	3	0
	0830	..	1013.0	1001.5	..	24.4	21.0	18.9	21.8	72	..	2.9	..	6.0	0	0	29	0	2	24	3	0	0	0	0	0	2	0	
	1130	..	1012.4	1001.1	..	29.8	21.9	17.2	19.6	48	..	2.9	..	8.2	0	0	29	0	3	18	6	0	0	0	0	1	1	2	0
	1730	..	1009.3	997.8	..	27.9	22.7	19.8	23.1	62	..	4.5	..	9.3	0	0	31	1	0	0	0	0	0	0	0	23	7	0	0
	2330	..	1012.1	1000.5	..	24.5	22.1	20.8	24.6	80	..	2.5	..	4.5	0	0	25	5	2	11	4	2	0	0	0	1	6	0	
Interior Mysore (North)																													
Bidar	0830	664	1016.1	941.4	..	19.4	14.8	11.1	13.2	60	-2	3.0	+1.0	10.1	0	0	31	2	6	16	4	0	3	0	0	0	0	0	
	1730	..	1011.2	938.3	..	25.6	16.2	8.8	11.3	36	..	2.7	..	12.5	0	0	31	0	22	6	1	1	0	0	0	1	0	0	
Gulbarga	0830	458	1016.1	964.3	+0.1	21.9	16.6	12.1	14.1	54	-5	3.2	+1.8	14.4	0	24	6	1	9	17	3	0	0	0	0	0	1	0	
	1730	..	1010.5	960.1	..	28.8	17.5	8.6	11.2	30	..	3.7	..	24.8	0	13	16	1	11	13	3	1	0	0	0	0	2	0	
Bijapur	0830	594	1016.1	948.9	+0.2	19.0	15.4	13.1	15.1	69	+8	2.6	+0.8	3.5	0	0	22	4	4	4	4	4	1	1	0	9	0		
	1730	..	1009.7	944.9	..	28.2	19.3	13.8	15.8	42	..	4.6	..	3.1	0	0	23	5	7	11	0	0	0	0	0	0	8	0	
Belgaum	0830	753	1014.6	931.1	+0.1	21.1	16.8	14.2	16.2	66	+2	1.5	-0.3	4.3	0	0	27	1	4	18	4	0	0	0	0	0	4	0	
	1730	..	1008.9	927.6	..	27.5	18.4	12.1	14.1	40	..	3.0	..	10.0	0	0	31	0	5	22	1	0	0	0	0	1	2	0	0
Belgaum (Sambre Aerodrome)	0530	747	1013.5	929.9	..	18.7	15.0	12.4	14.4	68	..	1.2	..	5.1	0	2	17	0	1	18	0	0	0	0	0	0	12	0	
	0830	..	1015.0	931.9	..	20.8	16.6	13.9	15.9	65	..	2.6	..	7.4	0	2	19	0	2	19	0	0	0	0	0	0	0	10	0
	1130	..	1013.5	931.8	..	25.9	18.4	13.9	15.9	49	..	2.6	..	19.0	0	11	19	0	2	27	1	0	0	0	0	0	1	0	
	1730	..	1009.6	928.7	..	27.5	18.3	12.8	14.8	41	..	3.1	..	13.8	0	5	24	0	3	24	1	0	0	0	0	0	1	2	0
Gadag	0830	650	1014.8	942.4	+0.1	21.5	18.0	15.8	17.9	70	+8	3.1	+1.3	7.7	0	0	28	0	6	20	2	0	0	0	0	0	0	3	0
	1730	..	1009.3	938.8	..	28.1	20.3	15.8	17.9	48	..	3.3	..	11.1	0	1	30	1	18	12	0	0	0	0	0	0	0	0	
Gadag (P.B.O.)	0530	661	1013.1	938.7	..	18.3	15.0	12.7	14.7	71	..	1.7	..	10.6	0	0	29	0	2	18	8	0	0	0	1	0	1	0	
	0830	..	1014.6	941.0	..	21.6	17.4	15.0	17.4	67	..	2.7	..	11.0	0	2	28	0	2	23	4	0	0	0	0	1	0	1	0
	1130	..	1013.2	940.9	..	26.3	18.3	13.8	15.7	47	..	1.9	..	17.7	0	9	21	0	4	25	1	0	0	0	0	0	0	1	0
	1730	..	1009.4	937.7	..	27.1	18.0	12.7	14.7	42	..	3.9	..	13.9	0	3	28	0	4	27	0	0	0	0	0	0	0	0	0
	2330	..	1013.4	939.8	..	21.4	15.6	12.1	14.1	56	..	1.8	..	13.3	0	0	31	0	2	27	1	0	0	0	0	1	0	0	0
Raichur	0830	400	1014.8	970.0	-0.4	22.4	18.0	14.7	16.7	63	-2	1.5	-0.2	4.3	0	0	30	0	21	0	9	0	0	0	0	0	0	1	0
	1730	..	1010.0	965.9	..	28.4	19.6	12.8	14.8	41	..	2.9	..	5.5	0	0	31	0	21	2	8	0	0	0	0	0	0	0	0
Interior Mysore (South)																													
Bellary	0830	449	1015.3	964.6	0	21.7	18.8	16.9	19.3	75	+8	3.3	+0.7	3.0	0	0	24	0	1	0	22	1	0	0	0	0	7	0	
	1730	..	1009.7	960.3	..	28.8	21.3	16.6	18.9	49	..	3.5	..	5.6	0	0	31	0	1	3	26	1	0	0	0	0	0	0	
Chitaldrug	0830	733	1014.5	932.9	0	20.6	17.0	14.6	16.6	72	+2	4.3	+1.6	7.7	0	0	28	0	1	24	3	0	0	0	0	0	3	0	
	1730	..	1009.3	929.6	..	26.2	17.4	11.1	13.2	40	..	3.7	..	3.5	0	0	25	0	3	22	0	0	0	0	0	0	6	0	
Shimoga	0830	511	1014.3	950.2	..	21.0	17.8	15.8	17.9	73	..	2.8	..	1.3	0	0	11	1	3	5	2	0	0	0	0	0	20	0	
	1730	..	1008.5	946.1	..	27.6	19.1	13.7	15.7	44	..	3.3	..	5.4	0	0	28	2	9	15	1	1	0	0	0	0	3	0	
Balehonnur	0830	..	..	..	..	17.3	15.4	13.9	15.9	81	+5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hassan	0830	960	1530.6	908.7	..	18.8	16.4	14.8	16.8	78	+3	4.0	+0.8	2.5	0	0	12	0	0	10	2	0	0	0	0	0	19	0	
	1730	..	1512.4	905.6	..	24.7	17.1	11.7	13.7	45	..	4.5	..	4.3	0	0	22	0	0	19	3	0	0	0	0	0	9	0	
Mysore	0830	767	..	..	..	..	..	..	..	..	..	4.9	+1.5	7.7	0	1	29	1	11	12	2	0	3	0	1	1	1	0
	1730	..	..	..	..	..	..	..	..	..	..	4.9	..	8.1	0	0	30	0	13	14	0	0						

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars				Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Wind speed (Km.p.h.)			No. of observation											
			At mean sea level or height in ft. or m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Mean amount				Departure from normal	Mean wind speed, km. per hour	Wind direction			N	NE	E	SE	S	SW	W	NW	Calm	Variable		
															62 or more	20 to 61	1 to 19											19	20
			1	2	3	4	5	6	7				8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Kerala—Contd. Kozhikode(Contd.)	1130	5	1012.6	1012.0	..	29.2	23.4	21.0	24.9	62	..	2.7	..	6.6	0	0	31	0	0	2	0	3	15	9	2	0	0		
	1730	..	1009.5	1008.9	..	29.2	24.4	22.1	26.6	66	..	3.1	..	11.9	0	0	31	0	1	0	0	0	2	15	13	0	0		
	2330	..	1012.1	1011.5	..	25.2	23.3	22.3	26.9	84	..	1.7	..	5.5	0	0	31	2	21	6	1	0	0	0	1	0	0		
Palghat	0830	97	1013.5	1002.4	..	24.9	21.4	19.5	22.7	73	..	3.2	..	12.4	0	0	30	0	0	27	3	0	0	0	0	0	1	0	
	1730	..	1009.4	998.5	..	29.2	22.0	17.8	20.4	52	..	1.8	..	8.3	0	0	27	0	1	21	5	0	0	0	0	0	4	0	
Fort Cochin	0830	3	1012.8	1012.5	-0.1	26.7	22.7	20.5	24.1	69	-4	4.9	+2.3	5.9	0	0	31	1	16	13	1	0	0	0	0	0	0	0	
	1730	..	1009.0	1008.7	..	28.5	23.9	21.4	25.5	66	..	4.9	..	5.5	0	0	31	2	1	0	0	1	4	17	6	0	0	0	
Cochin (Naval Air Station)	0230	3	1010.8	1010.5	..	23.9	22.4	21.6	25.8	87	..	2.5	..	3.5	0	0	22	3	7	10	1	1	0	0	0	0	9	0	
	0530	..	1010.9	1010.6	..	22.8	21.5	20.8	24.6	89	..	2.1	..	4.5	0	0	26	4	9	13	0	0	0	0	0	0	5	0	
	0830	..	1012.9	1012.6	..	25.8	22.3	20.5	24.1	73	..	2.8	..	6.3	0	0	29	2	6	19	2	0	0	0	0	0	2	0	
	1130	..	1012.4	1012.1	..	29.6	23.3	19.9	23.2	56	..	3.5	..	8.2	0	0	29	5	2	10	5	2	0	1	4	2	0	0	
	1730	..	1009.1	1008.8	..	29.1	23.4	20.6	24.3	61	..	4.1	..	13.0	0	0	22	1	0	0	0	0	7	0	14	9	0	0	
	2330	..	1012.1	1011.8	..	25.0	23.1	22.2	26.7	85	..	2.4	..	3.8	0	0	21	5	5	9	1	1	0	0	0	0	10	0	
Alleppey	0830	4	1012.4	1012.0	..	26.5	23.4	21.6	26.1	76	..	3.0	..	5.5	0	0	30	0	4	17	9	0	0	0	0	0	1	0	
	1730	..	1008.7	1008.3	..	29.5	24.6	22.3	26.9	66	..	3.8	..	13.2	0	2	29	2	0	0	0	0	1	13	15	0	0	0	
Punalur	0830	34	1012.4	1008.5	..	24.5	21.7	20.2	23.7	78	..	4.2	..	2.0	0	0	10	0	4	3	1	0	0	0	2	21	0	0	
	1730	..	1008.5	1004.7	..	30.1	22.9	19.0	22.0	52	..	5.1	..	5.2	0	0	29	0	2	13	10	1	2	1	0	2	0	0	
Trivandrum	0230	64	1010.3	1002.9	..	23.6	22.4	21.7	25.9	80	..	1.9	..	2.7	0	0	24	2	16	3	2	0	0	0	1	7	0	0	
	0530	..	1010.5	1003.2	..	22.9	21.6	20.8	24.6	88	..	2.1	..	3.7	0	0	30	6	14	7	0	0	0	1	2	1	0	0	
	0830	..	1012.5	1005.2	0	24.9	22.7	21.5	25.6	82	+2	3.1	-0.5	2.8	0	0	27	2	12	8	3	0	0	0	2	4	0	0	
	1130	..	1011.7	1004.5	..	29.5	23.7	20.6	24.3	59	..	4.7	..	3.7	0	0	26	3	4	1	3	3	4	3	5	5	0	0	
	1730	..	1009.4	1002.2	..	27.9	24.0	22.0	26.4	71	..	4.2	..	3.9	0	0	29	1	0	0	1	2	11	12	2	2	0	0	
	2330	..	1011.8	1004.4	..	24.7	23.1	22.3	26.9	87	..	1.9	..	3.8	0	0	21	5	7	3	2	0	1	1	2	10	0	0	
Trivandrum (Aerodrome)	0830	8	1012.3	1011.4	..	26.2	23.0	21.3	25.3	75	..	3.7	..	3.7	0	0	25	7	15	0	0	0	0	0	1	6	2	0	
Arabian sea Island Mincoy*	0530	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	2330	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amini Divi*	0830	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hill Stations (excluding Kashmir)— Walong (R)	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kohima	0830	1406	1565.0	866.4	..	14.1	13.1	12.0	14.0	88	..	0.3	..	0.2	0	0	31	0	0	4	21	3	2	0	1	0	0	0	
	1730	..	1577.0	867.4	..	14.1	13.1	12.3	14.2	90	..	1.7	..	0.2	0	0	31	0	0	0	0	0	3	23	5	0	0	0	0
Aijal	0830	16.3	12.9	9.8	12.1	67	..	1.7	..	3.0	0	0	27	0	0	14	7	2	1	3	0	0	4	0	0
	1730	18.9	14.8	11.0	13.1	61	..	1.6	..	3.2	0	0	31	0	0	3	0	0	9	15	4	0	0	0	0
Shilong	0830	1500	1522.3	852.5	-0.4	13.8	8.8	2.9	7.5	49	-20	0.3	-1.1	0.2	0	0	1	0	0	0	1	0	0	0	0	0	30	0	0
	1730	..	1495.5	849.7	..	12.4	11.0	9.7	12.0	84	..	7.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
Cherrapunji	0830	1313	1524.2	871.6	-0.3	14.2	11.5	9.1	11.5	72	+12	0	-1.8	3.0	0	0	31	0	31	0	0	0	0	0	0	0	0	0	0
	1730	..	1498.1	868.9	..	13.3	11.8	10.6	12.8	84	..	0	..	3.0	0	0	31	0	31	0	0	0	0	0	0	0	0	0	0
Darjiling (Raj Bhawan)	0830	2127	1564.0	794.7	+4.2	7.2	5.6	4.0	8.0	81	+15	3.8	+1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	1730	..	1538.1	792.2	..	8.3	6.8	5.9	8.9	85	..	5.6	..	0.2	0	0	3	1	0	0	0	0	1	1	0	0	28	0	
Kalimpong	0830	1209	1473.6	877.0	-6.7	16.1	14.5	13.5	15.4	84	+11	1.4	-0.8	3.0	0	0	31	0	0	0	0	0	0	0	0	31	0	0	0
	1730	..	1465.5	876.2	..	16.3	14.9	14.1	16.0	85	..	2.2	..	3.0	0	0	31	0	0	0	0	30	0	0	0	1	0	0	0
Khatmandu (Hydromet)	0830	1324	1529.6	871.7	..	6.6	6.3	6.0	9.4	95	..	4.2	..	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0
	1130	..	1527.9	870.7	..	16.3	11.3	5.0	9.8	53	..	1.9	..	0.5	0	0	5	0	1	1	1	1	0	1	0	26	0	0	
	1730	..	1505.8	868.8	..	12.5	9.9	7.0	10.4	71	..	1.6	..	0.2	0	0	2	2	0	0	0	0	0	0	0	0	29	0	0
Mukteswar (Kumaon)	0830	2311	3134.4	774.5	+0.5	7.7	1.8	-10.5	3.3	34	-5	2.2	-0.1	9.0	0	3	24	9	4	4	0	0	1	9	0	4	0		

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C				Relative humidity%	Departure from normal	Cloud amount (Oktas)			Wind speed (Km. p.h.)			No. of observations										
			At mean sea level of height in g. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point	Vapour pressure in mbs.			Mean amount	Departure from normal	Mean wind speed, kms. per hour	62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Hydrometeorological Observatories—Contd.																												
Mahanadi Catchment.—Contd.																												
Sonepur	0830	..	..	..	..	17.3	15.1	13.5	15.3	77	..	..	..	3.7	0	0	20	1	2	1	3	3	7	1	2	11	0
Ginabhar	0830	..	..	..	..	17.5	12.3	7.6	11.0	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhimkund	0830	15.8	13.7	11.3	14.0	74	..	1.3	..	2.8	0	0	22	6	2	0	0	0	0	0	0	13	9	0
	1730	..	..	..	..	22.7	16.3	10.8	13.4	48	..	1.5	..	1.7	0	0	14	3	3	1	0	0	3	0	4	17	0
Narbada Catchment																												
Punasa	0830	..	..	..	..	18.3	12.9	7.6	10.5	50	..	..	..	4.7	0	0	30	4	15	8	1	1	1	0	0	1	0
	1730	..	..	..	..	26.0	17.3	10.0	12.8	37	..	..	..	2.7	0	0	22	3	13	4	0	0	2	0	0	9	0
Bagra Tawa	0830	..	..	..	..	15.6	11.9	8.1	11.0	61	..	0.3	..	2.5	0	0	15	4	7	0	0	1	3	0	0	16	0
	1730	..	..	..	..	23.7	16.6	10.7	13.4	44	..	0.6	..	1.1	0	0	7	2	3	0	0	0	2	0	0	24	0
Thikri	0830	..	..	..	..	19.5	14.5	10.2	13.0	56	..	3.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sabarmati Catchment																												
Jhadol	0830	..	..	..	..	10.9	7.6	3.1	7.7	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharoi	0830	..	..	..	..	17.5	12.2	6.7	10.0	49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	26.1	16.2	7.3	10.4	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Catchment																												
Mukhum	0830	..	..	..	..	8.9	3.6	-3.9	4.6	40	..	1.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.8	4.9	-1.2	5.6	47	..	2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tehri	0830	..	..	..	..	5.7	5.2	4.8	8.4	93	..	1.7	..	0.2	0	0	2	0	0	0	0	0	1	0	1	29	0
	1133	..	..	..	..	14.5	9.5	4.0	8.3	49	..	1.7	..	0.7	0	0	7	0	0	3	1	0	1	1	1	24	0
	1730	..	..	..	..	16.0	10.9	5.8	9.4	51	..	2.2	..	1.5	0	0	13	0	0	0	6	3	3	1	0	18	0
Gandak Catchment																												
Gorkha	0830	..	..	..	..	14.1	11.4 (b)	9.1 (b)	11.6 (b)	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	14.8	13.9	13.4	15.3	91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pokhara	0830	..	..	..	..	13.9	11.3	9.2	11.6	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	16.0	13.2	11.0	13.2	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nawakot	0830	..	..	..	..	14.3	12.0	10.2	12.3	76	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	15.9	12.2	9.1	11.5	65	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jomosom	0830	..	..	..	..	2.9	-0.5	-5.8	4.0	53	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	7.0	3.5	-0.6	5.9	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Timure	0830	..	..	..	..	5.3	2.1	-2.3	5.1	57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	10.3	7.3	4.2	8.2	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gogra Catchment (Trans Himalayam Region)																												
Dailekh	0830	..	..	..	..	10.5	7.4	3.9	8.1	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	12.5	9.2	5.9	9.3	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dandeldhura	0830	..	..	..	..	9.9	5.3	-0.2	6.0	49	..	2.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	9.6	5.6	1.1	6.6	55	..	2.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butwal	0830	..	..	..	..	19.6	15.6	12.4	14.2	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	20.3	12.7	15.3	17.1	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bagmati Catchment																												
Katmandu†	0830	1324	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kosi Catchment																												
Chautara	0830	..	..	..	..	10.8	8.5	6.2	9.6	74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	14.1	9.9	6.3	9.6	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okhaldunga*	0830	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Data not available.

(b) Mean of 29 days.

†Data included under Hill Stations.

TABLE III—SUMMARY OF OBSERVATIONS AT FIXED HOURS—DECEMBER, 1959 (AGRAHAYANA 10—PAUSA 10, 1881 SAKA)

Division and station	Hour of observation I.S.T.	Height of barometer cistern above mean sea level in metres.	Mean pressure in millibars			Mean temperature in °C			Vapour pressure	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed, km. per hour	Wind speed (km.p.h.)			No. of observations									
			At mean sea level or height in g. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction									
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrometeorological Observatories-- (contd.)																											
Kosi catchment-- (Contd.)																											
Barankshetra . . .	0830	146	1018.3	1001.0	..	14.8	13.1	11.8	13.7	82	..	1.0	..	6.2	0	0	30	1	5	4	4	2	9	2	3	1	0
	1130	..	1016.4	999.5	..	20.3	16.4	13.4	15.6	65	..	1.6	..	5.9	0	0	30	0	0	1	0	1	23	3	2	1	0
	1730	..	1014.3	997.2	..	17.1	15.5	14.4	16.3	84	..	1.5	..	5.6	0	0	31	0	4	11	14	0	1	0	1	0	0
Angbung . . .	0830	..	..	..	..	13.8	10.7	7.7	10.5	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	17.0	11.8	7.1	10.1	52	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplejung . . .	0830	..	..	..	..	9.2	7.4	5.7	9.1	78	..	2.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1130	..	..	..	..	14.3	10.1	6.5	9.7	60	..	2.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.1	7.9	5.1	8.8	66	..	2.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taplethok . . .	0830	..	..	..	..	13.2	9.3	5.3	8.9	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	13.8	9.9	6.1	9.4	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dhojpur . . .	0830	..	..	..	..	12.8	9.7	7.2	10.1	68	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.5	9.7	8.3	10.9	81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wallungchung Gola *	0830	..	..	..	..	6.1	1.9	-3.3	4.7	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	2.1	0.4	-1.0	4.6	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chainpur . . .	0830	..	..	..	..	13.2	10.6	8.2	10.9	72	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	14.5	11.5	9.1	11.4	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tista Catchment																											
Gangtok . . .	0830	1812	1553.1	822.3	..	9.0	6.6	4.0	8.2	72	..	2.0	..	2.6	0	0	17	5	6	0	0	2	1	0	3	14	0
	1130	..	1518.0	821.2	..	13.0	9.9	6.8	9.9	64	..	2.8	..	4.2	0	0	31	0	1	0	1	7	19	2	1	0	0
	1730	..	1508.0	819.9	..	10.0	8.2	6.5	9.7	79	..	4.4	..	1.5	0	0	14	0	1	0	4	6	3	0	0	17	0
Gyzing . . .	0830	..	..	..	..	13.3	9.9	7.1	10.0	65	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1730	..	..	..	..	11.4	9.3	7.6	10.4	77	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* Observations for 29 days.

Division and station.	Hour of observation I. S. T.	Height of barometer cistern above mean sea level in metres	Mean pressure in millibars			Mean temperature in °C			Vapour pressure in mbs.	Relative humidity %	Departure from normal	Cloud amount (Oktas)		Mean wind speed. Km. per hour	Wind speed (Km.p.h.)			No. of observations										
			At mean sea level or height in g. p. m. of nearest standard isobaric level	At station level	Departure from normal	Dry bulb	Wet bulb	Dew point				Mean amount	Departure from normal		62 or more	20 to 61	1 to 19	Wind direction										
																		N	NE	E	SE	S	SW	W	NW	Calm	Variable	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Arabian sea Islands—contd.																												
August																												
Minicoy	0530	2	1008.6	1008.4	..	26.7	24.3	23.2	28.4	82	..	6.5	..	15.9	0	6	25	0	0	0	0	0	2	17	12	0	0	0
	0830	"	1010.0	1009.8	-0.9	27.6	24.9	23.7	29.3	79	0	7.2	+2.5	13.8	0	1	30	0	0	0	0	0	1	14	16	0	0	0
	1130	"	1010.2	1010.0	..	29.1	25.6	24.1	30.0	75	..	7.0	..	15.9	0	6	25	1	0	0	0	0	1	12	17	0	0	0
	1730	"	1007.9	1007.7	..	28.0	25.1	23.8	29.5	78	..	7.1	..	15.4	0	3	28	1	0	0	0	0	1	17	12	0	0	0
	2330	"	1010.4	1010.2	..	26.9	24.7	23.7	29.3	83	..	6.1	..	13.2	0	0	31	0	0	0	0	0	2	14	15	0	0	0
Amini Divi	0830	4	1009.1	1008.7	..	27.7	25.6	24.7	31.1	84	+1	6.0	+0.3	28.2	0	22	9	0	0	0	0	0	6	19	6	0	0	0
September																												
Minicoy	0530	2	1008.4	1008.2	..	26.4	24.4	23.5	28.9	84	..	6.3	..	14.9	0	9	21	1	0	0	0	0	0	16	13	0	0	0
	0830	"	1010.2	1010.0	-1.1	27.5	23.9	23.7	29.3	81	+2	5.9	+1.7	13.2	0	7	23	1	0	0	0	0	1	13	15	0	0	0
	1130	"	1010.4	1010.2	..	28.6	25.5	24.1	30.0	77	..	5.9	..	13.6	0	7	23	0	0	0	0	0	1	12	17	0	0	0
	1730	"	1007.7	1007.5	..	28.1	25.1	24.0	29.9	78	..	6.7	..	15.4	0	9	21	2	0	0	0	0	0	14	14	0	0	0
	2330	"	1010.2	1010.2	..	26.6	24.5	23.5	30.7	83	..	5.7	..	14.2	0	10	19	0	0	0	0	0	0	17	12	1	0	0
Amini Divi	0830	4	1009.2	1008.8	..	27.6	25.4	24.5	30.7	83	+2	5.8	+0.8	26.6	0	21	9	2	0	0	0	0	3	16	9	0	0	0
October																												
Minicoy	0530	2	1009.2	1009.0	..	25.8	23.9	23.1	28.3	85	..	6.2	..	10.0	0	5	23	5	1	0	0	0	2	13	7	3	0	0
	0830	"	1011.4	1011.2	-0.2	27.7	24.7	23.5	28.9	78	+1	5.8	+1.6	9.3	0	0	29	4	0	1	0	0	1	12	11	2	0	0
	1130	"	1011.1	1010.9	..	29.2	25.5	23.8	29.5	73	..	5.4	..	9.3	0	0	31	4	2	1	0	0	1	8	15	0	0	0
	1730	"	1008.5	1008.3	..	28.0	24.8	23.3	28.6	76	..	6.1	..	8.8	0	0	28	5	0	0	0	0	1	7	15	3	0	0
	2330	"	1010.9	1010.7	..	26.2	24.1	23.1	28.3	83	..	5.5	..	7.5	0	0	27	8	0	0	0	0	1	7	11	4	0	0
Amini Divi	0830	4	1010.8	1010.4	..	27.9	25.1	23.8	29.5	79	0	5.2	+0.3	12.3	0	8	16	1	1	0	0	0	0	8	14	7	0	0
November																												
Minicoy	0530	2	1009.4	1009.2	..	24.6	23.4	22.7	27.6	90	..	6.3	..	5.8	0	0	25	3	2	0	0	1	6	6	7	5	0	0
	0830	"	1011.5	1011.3	-0.3	27.0	24.8	23.8	29.5	83	+5	5.0	+0.1	6.0	0	0	26	4	1	2	0	1	5	6	7	4	0	0
	1130	"	1011.4	1011.2	..	28.9	25.3	23.7	29.3	74	..	5.1	..	6.7	0	1	29	8	3	2	2	4	1	2	8	0	0	0
	1730	"	1008.8	1008.6	..	27.7	24.7	23.4	28.8	77	..	5.6	..	6.5	0	0	24	4	5	0	0	2	3	3	7	6	0	0
	2330	"	1010.9	1010.7	..	25.4	23.7	23.2	28.4	88	..	4.5	..	4.4	0	0	21	5	5	1	1	3	2	3	1	9	0	0
Amini Divi	0830	4	1011.0	1010.5	..	27.9	25.3	24.0	29.8	80	+5	4.3	+0.4	4.6	0	1	11	8	2	0	0	0	0	0	2	18	0	0
December																												
Minicoy	0530	2	1010.6	1010.4	..	24.6	23.2	22.5	27.3	88	..	4.6	..	6.9	0	0	29	4	15	2	4	0	0	4	0	2	0	0
	0830	"	1012.6	1012.4	+0.2	26.7	24.3	23.2	28.4	79	+5	4.2	+0.9	7.7	0	0	28	7	12	3	3	1	0	0	2	3	0	0
	1130	"	1012.4	1012.2	..	29.0	25.1	23.2	28.4	70	..	4.0	..	8.8	0	0	31	5	11	8	5	1	0	0	1	0	0	0
	1730	"	1009.6	1009.4	..	28.1	24.5	22.8	27.7	73	..	4.3	..	7.8	0	0	30	5	16	5	2	2	0	0	0	1	0	0
	2330	"	1011.9	1011.7	..	25.3	23.4	22.8	27.7	85	..	3.8	..	6.0	0	0	27	4	17	3	2	1	0	0	0	4	0	0
Amini Divi	0830	4	1012.8	1012.3	..	27.3	24.5	23.3	28.6	78	+9	4.0	+1.0	7.1	0	0	25	10	8	2	3	0	0	0	2	6	0	0

**EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C)
AND
HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS
BASED ON DATA UPTO 1959 (1880-1881 SAKA)**

TABLE III (A)—EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Bay Islands																					
Maya Bandar	33.9	16.8	25.6	31.7	17.8	17.5	33.9	18.9	9.4	36.1	18.9	67.8	35.0	17.2	184.7	36.1	21.1	213.4	31.7	21.1	160.4
	1953	1957	1959	1956	1954	1953	1955	1955	1953	1955	1953	1953	1952	1952	1955	1952	1958	1955	1956	1954	1959
Long Island	31.7	18.3	32.5	33.3	15.6	47.5	35.6	19.4	50.0	36.1	21.1	100.3	34.9	21.1	186.2	33.3	21.1	209.8	33.3	21.1	129.0
	1958	1953	1954	1959	1953	1957	1959	1955	1959	1953	1956	1953	1957	1955	1955	1957	1955	1955	1953	1956	1959
Port Blair	32.7	16.7	208.3	33.3	17.2	131.1	35.1	17.8	67.1	36.1	20.6	206.8	36.1	20.6	264.9	35.6	19.4	258.3	32.8	18.3	164.9
	1958	1910	1922	1958	1949	1902	1958	1949	1881	1889	1939	1922	1889	1939	1891	1933	1939	1908	1941	1941	1959
Car Nicobar	31.5	16.1	104.1	35.0	16.1	82.5	33.2	16.8	53.3	34.1	19.4	99.6	34.0	21.1	129.0	32.2	21.7	127.0	31.7	21.2	103.4
	1958	1956	1954	1954	1956	1956	1958	1957	1953	1958	1956	1956	1958	1952	1955	1953	1956	1955	1957	1957	1957
Nancowry	33.9	21.7	74.9	33.9	20.0	91.2	35.0	21.1	49.0	36.7	20.6	79.0	36.1	18.9	119.4	32.2	21.1	120.4	31.1	21.7	139.2
	1954	1956	1953	1959	1956	1956	1954	1956	1954	1952	1952	1956	1952	1952	1954	1953	1956	1957	1954	1956	1952
Kondul	30.0	20.6	168.7	30.6	19.4	90.2	31.7	21.7	77.5	32.6	22.2	95.8	35.0	21.7	133.3	31.6	21.7	201.2	33.1	21.1	86.9
	1953	1956	1953	1959	1953	1953	1958	1954	1958	1958	1955	1955	1957	1956	1956	1957	1955	1954	1957	1954	1957
Assam (including Manipur, Tripura)																					
Pasighat	25.3	7.1	41.2	26.6	7.5	28.0	33.2	12.8	26.2	35.4	16.1	50.3	33.3	18.2	125.2	36.2	21.1	131.4	36.3	22.3	332.7
	1958	1959	1959	1959	1959	1959	1958	1959	1959	1959	1959	1959	1958	1958	1958	1958	1959	1959	1959	1959	1959
Digboi	26.6	5.6	52.3	29.4	7.4	24.6	32.8	10.0	40.1	35.6	13.8	66.0	36.1	17.4	57.2	37.2	20.6	95.8	36.9	21.1	118.4
	1959	1956	1956	1956	1959	1959	1958	1957	1956	1959	1957	1957	1956	1957	1959	1956	1957	1957	1958	1956	1956
Dibrugarh	27.8	5.0	35.6	30.6	4.4	46.5	33.9	6.1	55.9	35.6	12.2	197.1	36.7	16.7	118.1	38.9	15.6	202.2	37.8	20.0	182.0
	1946	1940	1911	1942	1905	1917	1923	1903	1915	1937	1920	1913	1947	1909	1948	1905	1910	1931	1956	1908	1958
Dibrugarh (Mohanbari Aerodrome)	26.1	3.9	24.6	30.0	6.1	55.9	33.3	8.3	55.1	34.8	13.9	58.7	34.4	16.1	102.1	36.7	20.0	112.8	37.2	21.5	97.4
	1952	1953	1956	1952	1953	1954	1958	1957	1955	1958	1954	1954	1956	1957	1959	1953	1955	1951	1952	1957	1958
North Lakhimpur	26.7	2.8	26.9	29.4	5.4	21.3	32.9	8.1	74.2	33.8	14.3	99.6	35.0	17.6	178.3	36.0	20.9	100.5	36.1	20.6	199.9
	1955	1956	1957	1956	1958	1957	1958	1957	1955	1958	1959	1954	1956	1957	1958	1959	1957	1959	1958	1954	1956
Sibsagar	28.9	3.3	43.7	30.6	2.8	42.9	35.6	7.2	113.0	36.1	12.8	148.6	42.8	16.7	188.2	37.8	19.4	189.2	38.9	20.6	218.9
	1942	1917	1945	1942	1905	1892	1945	1917	1892	1937	1912	1913	1945	1893	1931	1881	1907	1903	1883	1909	1929
Jorhat	26.7	6.1	34.0	31.1	7.8	18.3	33.9	8.9	48.3	34.5	15.0	50.8	35.0	16.1	119.9	36.0	20.6	146.6	36.1	21.7	95.5
	1955	1956	1954	1954	1959	1959	1954	1957	1954	1957	1957	1954	1955	1955	1957	1959	1955	1959	1956	1956	1959
Golaghat	26.7	7.2	16.5	30.6	1.1	22.0	35.6	6.6	37.6	35.6	16.1	53.3	37.2	11.1	134.6	36.7	19.9	76.2	36.7	18.3	118.0
	1958	1957	1957	1954	1958	1959	1954	1958	1956	1958	1959	1958	1954	1958	1957	1958	1957	1957	1958	1957	1959
Gohpur	25.4	6.2	14.0	27.1	6.0	21.5	33.2	9.9	34.2	35.4	14.4	32.3	33.8	16.6	95.5	36.6	21.6	59.0	36.0	22.2	68.6
	1953	1958	1958	1958	1959	1958	1958	1959	1959	1958	1959	1958	1958	1958	1959	1959	1959	1959	1958	1958	1958
Tezpur	27.8	5.6	29.5	31.7	6.1	38.6	36.7	10.0	62.0	38.3	13.3	100.1	38.3	17.2	148.1	36.7	19.4	136.7	36.7	21.7	142.7
	1907	1945	1907	1952	1905	1940	1923	1927	1912	1938	1905	1946	1937	1955	1904	1953	1907	1904	1936	1956	1947
Tezpur (P.B.O.)	27.2	6.1	33.3	31.7	8.3	18.5	35.1	11.1	39.9	37.7	16.1	52.3	35.3	18.3	112.8	36.1	20.6	71.1	36.3	21.7	88.1
	1952	1953	1957	1952	1953	1957	1958	1952	1955	1958	1955	1954	1957	1955	1957	1953	1955	1955	1957	1956	1955
Majbat	..	..	29.7	..	..	14.0	..	..	44.5	..	..	68.6	..	..	100.2	..	..	142.2	..	..	95.5
	..	..	1957	..	..	1957	..	..	1955	..	..	1956	..	..	1959	..	..	1959	..	..	1954
Chaparmukh	28.4	9.9	9.1	30.1	10.3	15.1	37.2	12.0	20.9	37.7	17.8	18.0	36.1	19.8	42.0	37.2	22.8	50.6	36.2	24.4	74.2
	1958	1959	1959	1958	1959	1959	1958	1959	1959	1959	1959	1959	1959	1958	1959	1959	1959	1959	1958	1958	1958

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
32.2	20.6	109.7	31.7	20.5	104.9	31.7	20.0	64.8	35.0	21.1	109.0	30.4	19.3	85.0	1952	1952	Bay Islands
1953	1953	1956	1955	1958	1954	1955	1955	1957	1953	1954	1959	1957	1958	1959			Maya Bandar.
36.7	21.7	147.3	32.7	21.4	124.7	32.2	21.1	122.2	32.2	20.6	119.1	31.7	17.2	53.9	1952	1952	Long Island.
1952	1956	1956	1957	1957	1957	1952	1956	1952	1953	1954	1953	1954	1953	1952			
31.7	21.1	173.2	31.7	21.7	178.1	35.6	19.4	153.2	31.7	20.0	147.3	32.2	18.8	295.7	1881	1881	Port Blair.
1932	1952	1934	1888	1954	1904	1906	1912	1926	1957	1949	1901	1896	1958	1937			
31.7	21.1	148.6	33.3	20.6	132.6	31.7	21.1	198.4	31.1	19.4	122.2	35.6	16.7	158.8	1952	1952	Car Nicobar.
1954	1956	1959	1954	1952	1958	1953	1957	1955	1955	1958	1955	1955	1952	1957			
32.8	21.3	115.3	31.7	21.1	77.0	33.9	21.7	97.6	33.3	21.1	83.3	34.4	20.6	87.3	1952	1952	Nancowry.
1959	1959	1956	1954	1956	1955	1953	1959	1959	1953	1955	1955	1953	1954	1957			
31.7	21.1	131.0	31.1	21.7	113.0	30.8	22.2	162.6	30.6	21.1	95.5	30.6	21.6	82.3	1952	1952	Kondul.
1957	1955	1958	1957	1954	1953	1957	1954	1952	1957	1955	1958	1955	1959	1955			
36.3	20.9	215.6	36.3	19.6	180.3	34.6	17.6	119.4	30.6	12.4	5.8	27.4	8.4	13.8	1958	1958	Assam (including Manipur, Tripura).
1959	1958	1958	1958	1959	1958	1958	1959	1958	1958	1959	1959	1958	1958	1958			Pasighat.
37.2	21.5	88.9	36.6	19.4	77.2	34.4	15.0	157.5	31.5	10.7	12.9	27.7	7.8	25.4	1956	1956	Digboi.
1956	1958	1957	1958	1959	1959	1956	1957	1956	1958	1959	1956	1958	1959	1957			
37.8	21.1	223.5	36.6	16.1	182.1	36.1	15.0	104.7	32.2	8.9	53.3	28.3	5.6	56.1	1901	1901	Dibrugarh.
1956	1903	1920	1959	1905	1941	1907	1943	1913	1942	1933	1932	1959	1918	1931			
36.7	19.5	98.0	36.1	28.6	140.5	35.0	14.4	78.0	31.7	9.1	31.8	27.8	5.0	22.9	1951	1951	Dibrugarh. (Mohanbari Aerodrome).
1953	1958	1952	1951	1959	1954	1955	1957	1953	1952	1959	1957	1951	1955	1951			
36.7	21.7	111.2	36.1	21.7	155.2	35.0	10.6	115.1	31.7	9.7	45.7	28.3	3.3	23.6	1954	1954	North Lakhimpur.
1957	1958	1958	1954	1956	1954	1955	1955	1956	1954	1959	1957	1954	1955	1954			
37.8	18.3	154.4	36.4	19.4	182.4	35.6	15.0	99.6	32.2	9.4	53.9	28.9	4.4	36.3	1881	1871	Sibsagar.
1931	1944	1929	1958	1890	1902	1938	1938	1925	1896	1928	1930	1958	1916	1936			
37.2	22.2	126.0	36.1	22.2	82.8	35.6	15.6	56.1	30.6	10.0	20.1	27.9	5.0	14.7	1951	1951	Jorhat.
1955	1956	1959	1955	1957	1958	1955	1957	1956	1958	1953	1955	1958	1954	1958			
36.7	17.2	92.2	36.7	22.2	96.0	34.4	17.8	50.5	31.7	8.8	36.3	28.9	6.3	25.4	1954	1954	Golaghat.
1959	1957	1956	1958	1954	1958	1956	1954	1955	1958	1957	1955	1958	1959	1957			
36.0	21.6	58.6	36.0	20.5	80.2	34.3	16.8	86.1	31.6	10.5	12.7	26.6	7.2	40.4	1958	1958	Gohpur.
1959	1958	1958	1958	1959	1959	1958	1958	1958	1958	1959	1959	1959	1959	1958			
37.2	21.1	166.6	36.7	20.6	102.9	36.1	15.6	140.7	33.3	10.6	59.9	28.9	6.7	19.3	1901	1901	Tezpur.
1953	1945	1952	1909	1959	1917	1956	1941	1909	1952	1953	1901	1958	1925	1907			
36.7	22.9	149.6	36.1	20.6	121.7	35.0	17.2	112.8	31.1	11.7	41.1	28.3	7.2	19.1	1951	1951	Tezpur (P.B.O.).
1953	1958	1952	1953	1959	1953	1956	1957	1952	1952	1953	1951	1951	1955	1953			
..	..	115.4	..	..	74.4	..	..	70.6	..	..	39.2	..	..	27.9	..	1954	Majbat.
..	..	1957	..	..	1959	..	..	1955	..	..	1958	..	..	1956			
37.8	24.2	47.0	37.3	20.6	111.1	35.4	18.3	20.0	33.3	13.8	10.2	30.0	9.8	8.1	1958	1958	Chaparmukh.
1959	1959	1959	1958	1959	1959	1958	1959	1959	1958	1959	1958	1958	1959	1958			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

.. = Information not available.

TABLE III (A)—EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Assam (including Manipur, Tripura) —(contd.)																						
Tangla	28.2	8.2	31.0	28.6	8.4	29.3	35.4	12.1	48.3	35.8	16.6	109.0	35.3	19.3	86.2	36.4	22.1	125.4	36.8	22.6	81.5	
	1958	1958	1957	1958	1959	1957	1958	1959	1955	1958	1959	1959	1959	1958	1959	1959	1958	1959	1959	1958	1955	
Gauhati	28.9	5.0	41.1	35.0	6.1	53.3	38.3	6.1	56.1	40.0	12.8	75.7	38.3	16.1	185.4	36.7	18.9	194.3	37.2	20.6	232.9	
	1955	1925	1945	1951	1932	1914	1909	1906	1915	1939	1907	1955	1937	1955	1941	1952	1955	1956	1914	1955	1933	
Gauhati (Bhorjor Aerodrome)	28.4	5.6	39.1	32.2	6.1	16.5	37.2	10.3	49.8	38.9	14.4	100.3	37.7	17.2	96.8	36.7	21.1	173.7	35.6	21.9	102.9	
	1958	1953	1957	1956	1951	1957	1954	1957	1955	1957	1952	1955	1957	1955	1958	1952	1955	1953	1951	1958	1951	
Rangiya	27.3	8.0	6.0	28.9	8.8	35.6	35.9	13.3	34.0	36.2	16.7	40.6	34.7	23.1	60.5	36.2	21.8	175.6	35.7	22.1	72.0	
	1958	1959	1959	1958	1959	1958	1958	1959	1959	1958	1959	1958	1958	1959	1958	1959	1959	1959	1959	1959	1959	
Goalpara	29.0	6.1	72.4	31.7	7.2	31.7	37.6	10.2	29.0	39.9	14.6	91.4	37.6	16.7	141.7	36.7	16.1	160.8	35.8	22.1	195.8	
	1959	1955	1957	1956	1956	1958	1958	1957	1955	1958	1957	1956	1957	1955	1954	1957	1955	1959	1959	1958	1955	
Dhubri	29.4	6.1	54.1	32.2	2.8	59.9	38.3	10.0	107.9	41.1	12.2	197.6	40.0	15.9	226.3	35.6	13.9	368.3	35.0	22.2	285.7	
	1953	1905	1945	1901	1905	1904	1909	1906	1885	1939	1905	1948	1909	1957	1944	1940	1953	1909	1933	1951	1908	
Dhubri (Rupsi Aerodrome)	26.8	7.1	55.4	29.2	6.4	24.9	37.8	11.1	23.9	40.2	15.0	138.0	38.3	17.1	75.9	34.4	20.4	157.2	37.9	22.7	160.0	
	1958	1959	1957	1958	1958	1958	1958	1957	1958	1957	1957	1959	1957	1958	1958	1959	1958	1959	1959	1959	1959	
Tura	27.2	7.2	24.5	31.7	10.0	32.3	37.2	12.2	88.2	38.3	15.6	101.1	37.2	15.6	193.3	33.9	18.9	167.4	33.9	21.1	229.1	
	1954	1953	1959	1956	1956	1954	1958	1952	1959	1952	1951	1952	1951	1959	1952	1952	1955	1956	1951	1959	1951	
Agartala	29.9	3.9	50.1	33.9	6.1	45.0	38.9	10.0	46.0	40.0	16.1	141.2	37.4	16.1	123.4	36.3	21.1	196.6	34.8	22.2	136.9	
	1958	1955	1957	1953	1956	1958	1958	1957	1955	1956	1955	1955	1957	1955	1956	1958	1955	1956	1958	1958	1954	
Kailashar (C.W.O.)	29.9	6.5	8.6	29.4	7.3	17.3	36.1	12.3	41.6	36.3	16.6	27.6	35.1	18.5	72.4	36.1	22.1	79.3	35.2	23.2	79.9	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Silchar	30.0	5.6	100.1	32.8	5.0	90.4	37.8	8.3	245.4	39.4	13.9	165.1	38.9	15.6	290.3	37.8	20.0	227.3	39.4	21.1	234.7	
	1946	1899	1911	1952	1905	1927	1901	1927	1922	1937	1935	1934	1937	1886	1893	1900	1921	1913	1896	1897	1915	
Silchar (Kumbhigram Aerodrome)	29.6	9.3	20.8	29.0	8.5	48.0	37.2	13.8	118.0	36.3	16.4	60.4	34.7	17.9	144.6	30.4	22.3	277.7	35.7	21.8	100.4	
	1959	1959	1958	1958	1959	1959	1958	1959	1959	1958	1959	1959	1959	1958	1958	1959	1958	1959	1959	1959	1958	
Imphal	24.4	—1.7	30.5	27.2	—1.1	39.4	32.3	3.3	51.4	34.4	9.2	61.2	32.8	13.9	120.1	33.6	18.1	69.1	32.2	19.4	76.5	
	1955	1954	1957	1956	1955	1959	1958	1954	1959	1958	1957	1955	1955	1955	1956	1958	1958	1957	1956	1956	1954	
Haflong	24.6	7.1	48.0	27.8	5.4	65.8	33.3	10.6	48.4	32.1	12.6	164.1	35.6	14.9	248.2	32.2	18.3	120.7	31.6	18.9	99.8	
	1958	1959	1957	1956	1959	1954	1958	1959	1959	1959	1958	1955	1956	1958	1958	1955	1958	1955	1958	1956	1956	
Lumding	28.8	3.9	27.7	33.9	4.4	34.5	38.3	8.4	47.0	39.6	10.6	34.8	40.0	17.2	110.2	37.8	20.0	135.6	37.6	17.8	114.3	
	1958	1956	1957	1952	1956	1957	1958	1957	1959	1959	1951	1956	1954	1955	1956	1958	1953	1957	1958	1955	1956	
Sub-Himalayan West Bengal Cooch Behar (C.W.O.)	27.8	3.9	34.0	31.1	5.9	16.3	37.3	10.0	35.2	39.4	13.9	74.2	39.1	16.7	134.4	35.6	19.4	286.2	35.1	23.8	259.1	
	1954	1955	1957	1954	1958	1954	1958	1958	1959	1954	1955	1958	1957	1955	1954	1953	1955	1958	1959	1957	1954	
Jalpaiguri	28.9	5.0	37.6	31.1	2.2	71.9	36.1	7.8	68.6	40.0	10.6	152.4	39.4	16.1	161.0	37.2	17.0	234.9	37.2	22.2	390.4	
	1931	1937	1889	1931	1905	1914	1945	1906	1926	1932	1905	1945	1899	1910	1938	1927	1957	1903	1933	1949	1892	
Bagdogra	28.9	3.9	37.1	31.7	5.0	3.8	36.7	8.7	43.7	41.7	22.2	86.1	39.4	13.9	137.7	36.7	21.1	175.4	36.7	21.7	187.5	
	1954	1955	1954	1955	1956	1952	1954	1959	1956	1952	1951	1952	1957	1955	1956	1952	1957	1958	1951	1956	1957	
Malda	29.4	4.4	69.1	33.9	3.9	45.0	41.7	7.2	53.9	43.3	11.1	63.0	45.0	18.3	195.1	44.4	20.0	167.9	37.8	21.1	191.8	
	1958	1937	1957	1952	1905	1942	1941	1898	1926	1956	1953	1892	1958	1945	1938	1958	1955	1945	1897	1906	1958	
Gangetic West Bengal Dum Dum	31.7	7.2	27.2	35.6	8.9	17.0	40.6	12.2	22.9	42.8	18.1	53.1	42.9	19.4	27.4	41.8	21.7	129.0	35.2	22.5	137.2	
	1958	1959	1957	1952	1956	1957	1955	1957	1956	1954	1957	1955	1958	1952	1951	1957	1953	1956	1958	1957	1953	

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
36.5	22.8	106.4	36.6	20.3	88.0	34.3	17.8	69.8	31.9	10.9	86.4	28.9	8.0	20.6	1958	1954	Assam (Including Manipur, Tripura)—(contd.) Tangla.
1959	1958	1958	1958	1959	1959	1958	1958	1958	1958	1959	1956	1958	1958	1954			
37.8	21.1	187.7	37.2	20.0	133.9	35.6	15.6	94.3	32.2	10.6	36.8	29.4	5.0	21.3	1906	1906	Gauhati
1933	1955	1938	1928	1955	1949	1955	1921	1959	1950	1926	1924	1955	1918	1957			
36.1	22.8	87.6	35.9	21.2	89.7	34.4	15.2	60.2	32.5	11.1	19.8	30.9	7.2	16.5	1951	1951	Gauhati. (Bhorjor Aerodrome).
1953	1955	1954	1957	1959	1953	1955	1957	1951	1957	1954	1956	1957	1955	1952			
35.9	22.3	56.0	36.8	19.9	73.0	35.1	18.3	34.2	34.5	14.4	20.3	28.6	10.5	2.0	1958	1958	Rangiya.
1959	1958	1958	1958	1959	1958	1959	1959	1958	1959	1959	1959	1958	1959	1958			
40.5	21.4	104.9	36.7	18.3	221.7	36.1	16.1	81.4	32.6	12.2	25.9	31.1	7.2	19.6	1954	1954	Goalpara.
1959	1957	1957	1959	1955	1958	1956	1954	1959	1958	1954	1956	1955	1955	1955			
35.6	21.7	196.9	35.0	21.7	254.0	33.9	17.2	155.2	31.1	11.7	82.5	27.8	7.8	17.3	1891	1881	Dhubri.
1942	1957	1924	1906	1959	1911	1956	1902	1919	1905	1903	1952	1944	1922	1894			
36.1	15.1	195.8	34.8	21.5	201.8	33.4	15.6	220.0	31.4	12.3	3.8	28.2	8.2	0.4	1957	1957	Dhubri (Rupsi Aerodrome).
1957	1957	1957	1958	1959	1958	1958	1957	1958	1958	1959	1957	1958	1959	1958			
35.6	21.1	284.7	37.2	17.4	127.5	32.8	15.6	164.3	32.8	12.2	39.4	30.6	9.4	5.3	1951	1951	Tura.
1957	1959	1956	1958	1959	1955	1955	1954	1953	1952	1951	1952	1951	1959	1956			
36.4	22.8	238.8	35.0	21.7	115.6	35.0	14.9	86.9	32.8	10.6	104.7	30.0	7.2	10.9	1953	1953	Agartala.
1957	1955	1955	1954	1956	1956	1955	1957	1959	1955	1953	1955	1953	1955	1956			
34.6	22.7	46.6	35.6	21.5	45.0	33.2	18.5	138.1	30.4	13.5	0	29.6	7.6	0	1959	1959	Kailashar (C.W.O.)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959			
38.3	19.4	154.9	38.3	18.9	178.6	36.7	15.6	186.2	35.0	10.6	174.2	31.7	6.1	100.8	1881	1881	Silchar.
1900	1906	1890	1887	1890	1939	1944	1914	1912	1900	1902	1955	1945	1913	1883			
36.9	22.9	66.8	36.6	22.2	106.7	36.2	18.8	93.2	32.4	13.1	9.2	30.2	9.2	4.3	1958	1958	Silchar (Kumbhigram Aerodrome).
1958	1958	1958	1958	1958	1958	1958	1959	1959	1958	1959	1958	1958	1959	1958			
32.9	18.9	65.5	32.2	16.1	66.3	31.7	9.2	80.1	28.3	5.2	46.0	25.2	0.6	6.3	1954	1954	Imphal.
1957	1955	1959	1955	1956	1958	1955	1957	1959	1955	1959	1955	1959	1955	1955			
33.2	19.8	100.3	32.2	17.9	85.3	31.1	13.2	237.1	27.1	11.1	234.2	25.6	8.0	35.6	1954	1954	Hailong.
1957	1958	1954	1959	1959	1957	1956	1957	1959	1958	1954	1955	1958	1958	1954			
38.3	21.1	118.9	37.2	20.0	91.7	35.0	14.7	107.9	32.2	9.4	101.6	28.8	6.1	21.1	1951	1951	Lumding.
1953	1956	1952	1951	1953	1954	1956	1957	1952	1951	1953	1955	1958	1955	1957			
36.3	22.8	315.5	35.6	21.0	244.1	35.0	15.1	77.5	31.4	11.1	0	29.4	6.7	23.8	1953	1953	Sub-Himalayan West Bengal. Cooch Behar (C.W.O.).
1957	1954	1957	1953	1959	1953	1955	1957	1958	1958	1953	..	1953	1954	1958			
37.2	21.1	220.8	36.1	21.1	347.7	35.6	15.6	244.3	33.3	9.4	92.7	30.0	5.6	53.9	1891	1886	Jalpaiguri.
1933	1918	1958	1933	1944	1886	1926	1947	1909	1952	1914	1924	1951	1918	1932			
36.7	22.1	233.2	39.2	20.6	148.3	33.9	13.3	164.4	33.3	8.9	20.3	31.1	4.4	5.3	1951	1951	Bagdogra.
1957	1957	1958	1958	1956	1953	1956	1955	1959	1952	1953	1952	1951	1955	1956			
36.7	22.8	188.0	36.1	21.7	215.9	35.6	15.0	173.7	33.3	8.3	64.3	29.4	5.0	32.8	1896	1886	Malda.
1957	1948	1918	1896	1940	1953	1932	1908	1894	1896	1934	1930	1951	1896	1913			
35.5	23.6	83.3	35.6	23.2	214.4	35.9	16.7	150.2	33.9	12.2	40.9	30.6	9.4	15.2	1951	1951	Gangetic West Bengal Dum Dum.
1957	1958	1954	1957	1959	1956	1957	1954	1959	1952	1954	1951	1954	1959	1954			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A)—EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Gangetic West Bengal—(contd.)																						
Calcutta . . .	31.9	6.7	46.7	36.7	7.2	80.8	41.1	10.0	69.9	43.3	16.1	107.4	43.7	18.3	156.2	43.9	21.1	303.5	36.7	22.8	183.6	
	1958	1899	1943	1952	1950	1906	1941	1898	1907	1954	1905	1918	1958	1887	1893	1924	1900	1908	1920	1940	1905	
Barrackpore . . .	31.1	7.3	39.9	33.6	9.4	20.1	40.1	11.0	5.5	41.9	17.3	35.0	42.9	22.0	25.1	43.3	19.9	78.5	35.6	21.7	49.5	
	1958	1959	1957	1959	1959	1957	1958	1957	1959	1959	1957	1958	1958	1959	1959	1958	1957	1959	1958	1958	1959	
Saugor Island . . .	30.6	7.8	41.4	33.9	7.2	77.0	38.3	12.2	125.7	39.4	17.2	78.7	38.3	17.8	202.7	40.0	19.4	359.2	36.1	21.7	354.1	
	1931	1899	1948	1952	1950	1885	1934	1906	1907	1908	1942	1921	1908	1893	1932	1929	1925	1927	1920	1954	1913	
Sandheads . . .	..	..	33.0	..	..	65.3	..	..	62.7	..	..	72.6	..	..	87.9	..	..	334.0	..	..	290.8
	..	..	1944	..	..	1958	..	..	1940	..	..	1911	..	..	1950	..	..	1940	..	..	1921
Contai . . .	31.7	9.4	41.0	37.2	10.0	29.0	40.1	14.7	23.4	40.6	20.0	23.1	39.1	17.2	109.2	38.8	21.1	207.5	35.7	21.7	128.5	
	1958	1955	1959	1951	1953	1954	1958	1957	1951	1952	1956	1952	1957	1951	1956	1957	1952	1956	1959	1952	1957	
Midnapore . . .	32.8	6.1	54.6	37.2	5.6	66.0	42.8	11.1	79.5	45.6	17.2	78.2	46.7	19.4	145.3	47.2	20.0	276.9	37.2	22.2	160.8	
	1946	1934	1957	1922	1950	1931	1953	1925	1920	1938	1953	1949	1943	1950	1956	1942	1950	1950	1926	1943	1929	
Purulia . . .	31.1	7.8	12.7	35.0	7.2	22.9	41.7	13.5	35.3	43.9	16.1	26.4	45.6	20.0	48.8	45.6	20.6	61.5	36.7	17.8	148.3	
	1958	1954	1953	1952	1956	1956	1955	1957	1956	1954	1955	1959	1955	1952	1959	1953	1956	1951	1958	1953	1951	
Bankura . . .	..	..	33.0	..	..	18.3	..	..	33.5	..	..	38.9	..	..	45.4	..	..	60.7	..	..	86.9
	..	..	1957	..	..	1953	..	..	1956	..	..	1952	..	..	1958	..	..	1957	..	..	1957
Burdwan . . .	36.7	6.1	43.7	37.8	4.4	84.1	41.7	10.0	115.8	45.0	16.1	116.8	46.1	18.3	244.3	45.6	20.0	175.3	38.9	20.0	299.2	
	1951	1934	1944	1896	1905	1938	1941	1928	1887	1897	1886	1909	1916	1882	1893	1926	1953	1928	1897	1953	1905	
Krishnagar . . .	34.4	3.9	51.8	37.8	3.9	73.7	42.2	7.8	87.4	45.0	13.9	114.5	46.1	16.7	138.4	45.1	20.0	209.8	37.2	22.2	244.3	
	1912	1934	1898	1896	1886	1943	1941	1898	1886	1954	1886	1946	1958	1893	1918	1958	1907	1890	1949	1955	1905	
Asansol . . .	31.7	5.6	51.6	36.1	5.0	43.4	41.7	11.1	44.2	45.0	16.1	46.7	47.2	18.3	127.0	47.2	20.6	174.5	40.0	19.4	269.7	
	1958	1934	1944	1952	1950	1927	1941	1923	1949	1954	1950	1945	1944	1927	1938	1926	1922	1957	1926	1947	1943	
Suri . . .	31.1	6.7	132.3	33.3	8.3	14.2	41.1	12.7	22.3	44.4	17.8	20.1	46.1	19.4	80.4	45.4	20.0	73.7	38.2	22.2	131.8	
	1955	1956	1957	1955	1956	1957	1955	1957	1956	1956	1955	1955	1958	1956	1959	1958	1955	1956	1958	1955	1955	
Berhampore . . .	31.2	3.9	69.6	36.7	5.0	60.7	42.2	8.9	62.2	45.0	15.6	54.6	46.1	16.7	155.7	44.4	19.4	202.4	38.3	22.2	221.0	
	1958	1933	1957	1926	1950	1937	1941	1898	1887	1954	1936	1893	1916	1882	1915	1953	1884	1898	1897	1955	1900	
Orissa																						
Baripada . . .	33.8	9.2	28.4	38.3	11.9	46.3	41.6	15.0	33.5	44.6	22.1	32.6	46.9	23.3	45.5	47.8	22.7	181.1	35.2	23.9	99.8	
	1958	1959	1959	1959	1959	1957	1958	1959	1956	1957	1959	1959	1958	1959	1956	1958	1959	1956	1958	1959	1958	
Balasore . . .	33.3	7.2	85.1	38.3	6.7	76.2	40.6	11.7	70.4	45.0	16.7	71.4	46.7	19.4	221.5	46.1	20.0	217.2	38.3	20.0	347.2	
	1958	1934	1908	1934	1905	1923	1955	1927	1897	1892	1905	1947	1895	1893	1887	1926	1900	1956	1897	1913	1940	
Chandbali . . .	32.8	8.3	35.1	37.8	10.0	36.3	40.6	13.9	40.1	43.3	17.2	52.3	43.9	17.8	186.4	46.7	18.3	164.3	36.7	21.7	321.8	
	1950	1934	1948	1934	1942	1940	1954	1952	1940	1947	1943	1944	1942	1931	1936	1942	1931	1936	1929	1946	1941	
Cuttack . . .	35.6	7.8	61.0	38.9	10.6	98.0	42.8	14.4	99.1	43.9	17.2	94.5	47.7	20.6	142.7	47.2	21.7	205.7	40.0	21.1	210.8	
	1882	1923	1919	1896	1934	1917	1902	1906	1911	1954	1905	1899	1957	1946	1893	1948	1955	1925	1897	1943	1943	
Bhubaneswar . . .	33.6	9.4	35.6	37.2	10.6	52.6	40.7	16.1	25.4	43.9	19.4	34.3	44.9	21.1	94.5	45.0	21.7	91.4	36.1	21.7	144.4	
	1958	1952	1953	1953	1956	1958	1959	1952	1957	1954	1952	1952	1958	1954	1955	1952	1955	1954	1952	1952	1958	
Puri . . .	32.8	10.6	53.1	35.0	11.7	107.9	38.9	15.6	57.9	41.1	18.9	82.0	42.2	16.7	171.7	39.4	19.4	200.4	36.7	21.7	301.5	
	1946	1893	1921	1954	1955	1897	1899	1906	1919	1947	1946	1919	1943	1893	1893	1949	1908	1895	1938	1944	1918	
Gopalpur . . .	32.8	10.0	47.2	36.7	11.7	134.4	40.0	15.6	95.8	38.9	19.4	55.1	43.3	20.0	126.5	41.9	21.1	171.7	38.3	20.6	200.9	
	1946	1899	1908	1954	1934	1937	1956	1925	1957	1940	1955	1894	1915	1948	1940	1958	1939	1914	1957	1929	1936	
Koraput . . .	29.4	6.1	53.3	31.7	6.7	10.2	36.1	10.6	35.6	37.2	15.0	53.9	38.9	17.2	38.9	40.0	17.8	234.6	31.1	16.1	232.7	
	1958	1959	1953	1953	1956	1957	1953	1952	1954	1956	1956	1956	1956	1955	1951	1953	1955	1959	1952	1957	1951	

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Gangetic West Bengal—(contd.)																	
36.1	23.3	253.0	36.1	22.2	369.1	35.6	17.2	172.2	33.9	10.6	85.1	30.7	7.2	53.1	1881	1881	Calcutta.
1944	1935	1888	1939	1940	1900	1957	1954	1882	1952	1883	1950	1957	1910	1883			
36.3	23.6	81.5	35.4	23.6	164.0	34.3	18.5	231.1	31.6	12.8	37.8	29.9	9.9	0.3	1957	1957	Barrackpore.
1957	1958	1957	1957	1959	1959	1957	1957	1959	1959	1957	1958	1957	1957	1959			
36.7	21.1	232.4	36.1	22.2	283.4	33.9	17.2	321.6	32.8	12.2	113.3	29.4	9.4	91.9	1881	1881	Saugor Island.
1903	1953	1954	1921	1950	1958	1918	1898	1933	1944	1883	1955	1907	1896	1947			
..	..	176.3	..	..	137.2	..	..	155.2	..	..	132.6	..	..	144.8	..	1911	Sandheads.
..	..	1946	..	..	1946	..	..	1931	..	..	1915	..	..	1909			
36.7	22.8	130.1	35.0	21.7	240.0	34.2	18.3	200.7	32.8	13.9	64.8	31.1	10.0	29.7	1951	1951	Contai.
1951	1954	1954	1951	1959	1958	1957	1954	1955	1952	1953	1955	1956	1955	1954			
36.1	21.7	201.2	36.1	21.7	311.5	35.6	15.6	325.1	33.9	10.0	111.3	31.7	6.7	62.0	1921	1886	Midnapore.
1947	1955	1891	1957	1952	1958	1951	1954	1942	1937	1934	1941	1957	1937	1914			
35.0	17.2	78.7	36.1	17.2	181.6	35.6	16.7	65.0	32.2	11.1	55.4	30.1	9.4	7.4	1951	1951	Purulia.
1954	1953	1952	1955	1953	1958	1951	1954	1959	1952	1952	1955	1957	1952	1956			
..	..	61.7	..	..	106.0	..	..	76.0	..	..	57.1	..	..	7.4	..	1951	Bankura.
..	..	1952	..	..	1958	..	..	1959	..	..	1953	..	..	1954			
36.1	21.7	260.6	37.8	20.0	304.8	36.7	16.1	216.3	35.6	10.6	106.9	31.7	7.2	69.6	1881	1881	Burdwan.
1945	1954	1909	1928	1953	1956	1951	1933	1959	1896	1883	1916	1951	1883	1934			
36.7	21.1	165.3	37.2	21.1	293.9	36.7	14.4	214.8	36.1	8.3	151.1	32.2	5.0	37.3	1886	1886	Krishnagar.
1957	1949	1926	1955	1887	1900	1957	1935	1959	1952	1934	1889	1954	1937	1954			
37.2	21.7	189.2	36.1	20.0	269.0	36.7	15.0	99.1	36.1	8.3	99.1	31.7	6.7	29.7	1921	1916	Asansol
1932	1933	1935	1941	1946	1946	1932	1938	1929	1955	1926	1930	1946	1937	1929			
36.5	22.8	116.3	34.9	20.6	238.3	35.5	17.0	135.6	31.4	13.0	49.5	29.6	7.8	29.0	1955	1955	Suri.
1957	1955	1956	1957	1956	1956	1957	1957	1959	1957	1957	1956	1957	1955	1956			
37.1	21.7	183.4	38.9	21.7	182.9	37.8	16.1	206.3	35.0	8.3	75.2	32.2	6.7	33.5	1881	1881	Berhampore.
1957	1933	1939	1947	1956	1900	1951	1954	1917	1952	1934	1930	1951	1935	1913			
Orissa																	
35.8	24.3	104.4	36.1	23.5	97.5	35.9	18.3	187.6	33.3	11.4	58.4	32.6	8.3	1.2	1956	1956	Baripada.
1957	1959	1957	1957	1959	1957	1957	1958	1959	1957	1959	1958	1957	1959	1959			
35.6	21.7	190.5	35.6	22.2	189.5	36.1	15.6	323.3	34.4	8.9	184.7	31.7	6.7	78.7	1891	1886	Balasore.
1955	1933	1926	1922	1919	1899	1925	1926	1941	1896	1892	1950	1944	1897	1947			
35.0	22.2	147.8	35.6	21.7	320.8	35.6	17.8	169.7	33.9	11.7	207.8	32.8	8.3	49.5	1930	1931	Chandbali.
1954	1933	1946	1951	1959	1950	1951	1952	1952	1949	1959	1950	1949	1939	1947			
37.2	21.7	320.8	36.7	21.7	249.2	38.9	16.7	292.6	35.0	10.6	195.6	33.3	8.9	54.9	1880	1881	Cuttack.
1880	1943	1933	1901	1933	1891	1886	1926	1899	1896	1937	1950	1954	1922	1909			
35.0	21.7	107.7	35.0	22.2	163.0	35.1	16.1	188.2	35.0	12.8	15.6	32.7	9.4	10.9	1952	1952	Bhubaneswar.
1952	1953	1954	1957	1955	1958	1957	1954	1954	1952	1953	1955	1957	1955	1954			
36.7	21.7	187.7	36.1	17.2	210.8	36.1	16.7	316.2	33.9	13.9	242.8	32.8	10.6	88.9	1891	1891	Puri.
1891	1898	1896	1901	1893	1934	1899	1901	1928	1914	1926	1915	1896	1895	1909			
37.2	19.4	229.9	36.7	20.6	196.9	36.3	16.7	281.7	33.5	12.2	261.6	32.2	10.0	105.7	1891	1881	Gopalpur.
1928	1911	1940	1920	1917	1886	1957	1897	1923	1957	1926	1923	1951	1902	1909			
30.6	15.6	143.5	29.4	16.7	110.8	30.6	10.6	98.3	28.9	8.3	43.7	27.8	5.0	16.8	1951	1951	Koraput.
1958	1957	1957	1955	1957	1959	1957	1959	1958	1959	1955	1951	1957	1955	1952			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A)—EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) A N

Sub-division and Station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Orissa—(contd.)																					
Titilagarh . . .	31.7	6.1	27.4	27.8	10.0	24.1	42.2	13.9	26.7	45.0	18.6	23.1	46.7	21.1	76.7	47.2	21.8	103.9	37.2	21.1	255.3
	1957	1954	1953	1953	1956	1956	1955	1952	1954	1956	1957	1958	1956	1951	1956	1955	1959	1955	1952	1958	1958
Bolangir . . .	32.3	9.6	9.4	35.3	10.6	20.3	40.9	15.5	0	43.8	22.3	17.6	44.7	26.1	19.6	44.9	22.2	68.6	37.2	21.0	325.8
	1958	1959	1959	1959	1958	1958	1959	1958	..	1958	1959	1958	1959	1959	1958	1958	1959	1958	1958	1958	1958
Phulbani* Angul . . .	33.9	6.7	48.8	37.2	8.9	71.1	42.2	10.6	42.7	45.6	16.1	65.5	46.1	18.9	84.3	46.1	21.1	156.0	37.8	21.0	243.8
	1930	1923	1906	1934	1950	1932	1953	1906	1907	1941	1920	1928	1947	1910	1946	1958	1954	1925	1912	1959	1932
Keonjhar . . .	29.7	8.1	13.5	32.9	9.3	36.3	38.3	15.4	11.2	41.3	19.4	12.7	42.3	20.3	35.8	43.3	21.6	49.1	33.2	21.1	101.6
	1958	1959	1959	1959	1958	1958	1959	1959	1958	1959	1959	1959	1959	1959	1958	1958	1958	1959	1958	1959	1958
Sambalpur . . .	33.9	4.4	90.7	37.8	5.6	55.1	43.3	11.1	46.2	45.6	14.4	45.2	37.2	20.6	107.9	46.7	19.4	251.5	40.6	18.3	401.3
	1889	1954	1957	1896	1950	1901	1888	1954	1951	1942	1905	1909	1948	1951	1891	1955	1903	1882	1902	1910	1889
Jharsuguda . . .	32.2	6.1	42.4	35.6	8.3	39.6	42.8	11.7	58.7	44.4	15.8	31.7	46.7	21.1	33.0	46.1	21.1	159.2	37.0	21.6	117.9
	1958	1954	1953	1956	1956	1958	1955	1956	1951	1959	1957	1952	1956	1955	1956	1955	1955	1958	1958	1959	1952
Bihar Plateau																					
Jamshedpur . . .	31.1	6.7	11.0	35.6	8.9	19.3	41.7	11.7	33.8	43.9	17.2	32.3	44.9	21.7	30.7	45.6	21.7	214.1	36.7	23.3	187.5
	1952	1953	1957	1953	1951	1958	1955	1954	1951	1954	1955	1952	1957	1951	1955	1953	1956	1953	1958	1955	1952
Jamshedpur (P.B.O.)	31.8	6.7	15.0	36.1	8.9	20.1	42.2	11.7	33.8	44.4	18.2	32.3	45.9	21.7	38.1	46.6	22.8	108.5	36.8	21.7	187.5
	1958	1955	1954	1952	1951	1956	1955	1951	1951	1956	1957	1952	1958	1951	1955	1958	1956	1952	1958	1956	1952
Chaibasa . . .	33.3	4.4	75.2	37.2	6.7	75.7	42.2	11.7	43.9	45.0	15.6	80.3	46.7	18.3	58.4	46.1	20.0	131.3	41.1	21.7	194.8
	1911	1934	1901	1911	1934	1906	1955	1927	1891	1941	1944	1946	1948	1938	1893	1958	1932	1919	1926	1943	1929
Ranchi . . .	31.1	3.9	52.1	33.9	2.8	78.5	39.4	7.8	82.3	41.7	10.7	58.7	43.3	15.6	104.7	42.8	14.8	165.6	38.3	19.4	215.9
	1931	1946	1945	1956	1950	1913	1955	1898	1891	1938	1957	1944	1948	1952	1914	1958	1957	1898	1902	1951	1896
Ranchi (C.W.O.)	27.7	5.0	31.7	33.3	6.7	43.8	36.9	10.4	44.7	40.6	15.8	49.5	42.8	19.1	54.6	42.3	19.9	38.1	34.0	21.1	178.3
	1958	1959	1959	1956	1958	1958	1959	1957	1956	1956	1959	1959	1956	1959	1959	1958	1959	1958	1958	1959	1958
Daltonganj . . .	32.2	0	77.2	35.6	0.6	50.5	42.8	5.6	36.8	45.0	11.7	38.6	46.7	17.8	62.2	46.7	20.0	174.0	43.3	19.4	290.8
	1902	..	1945	1914	1905	1908	1931	1898	1927	1898	1907	1914	1956	1932	1904	1897	1900	1907	1902	1928	1920
Hazaribagh . . .	30.6	2.2	68.1	33.3	3.3	63.5	38.9	6.7	44.2	41.7	13.9	60.5	43.9	16.1	31.1	43.4	20.0	249.2	38.9	20.6	221.7
	1881	1933	1945	1896	1905	1927	1892	1898	1946	1956	1944	1925	1897	1878	1887	1958	1944	1911	1901	1940	1953
Dhanbad . . .	31.1	8.8	17.3	33.3	9.9	10.0	39.5	13.3	16.3	42.9	19.7	27.9	45.1	22.2	28.4	45.9	21.9	75.4	36.7	21.6	76.2
	1958	1959	1957	1958	1957	1959	1958	1957	1958	1959	1957	1958	1957	1959	1959	1958	1957	1958	1958	1957	1959
Dumka . . .	31.2	4.4	75.7	36.1	5.0	77.5	42.2	8.3	70.6	45.0	15.0	47.0	46.7	17.2	106.2	46.7	20.0	170.9	40.6	21.1	146.3
	1958	1945	1957	1952	1905	1940	1953	1906	1891	1951	1905	1946	1916	1934	1914	1926	1922	1927	1897	1948	1921
Bihar Plains																					
Purnea . . .	28.9	1.7	86.4	34.4	1.7	59.7	40.6	6.7	40.6	43.3	11.7	114.3	43.9	15.6	220.5	42.8	17.8	268.2	36.7	21.1	204.2
	1902	1955	1957	1896	1891	1882	1941	1927	1950	1891	1905	1925	1916	1885	1887	1958	1906	1881	1942	1921	1916
Forbesganj . . .	28.4	2.2	40.4	33.3	6.5	2.5	39.0	9.4	13.2	42.8	12.8	24.6	42.9	17.8	121.4	42.1	20.6	105.0	36.2	21.7	196.9
	1958	1955	1957	1955	1958	1955	1958	1957	1956	1954	1955	1955	1958	1956	1954	1958	1955	1959	1959	1954	1956
Darbhanga . . .	28.9	1.1	57.7	33.3	1.1	43.9	40.6	7.2	36.3	43.9	11.7	60.5	43.8	17.2	74.4	43.3	20.0	243.8	38.3	21.7	199.6
	1932	1933	1957	1943	1905	1949	1941	1906	1897	1922	1912	1899	1958	1948	1923	1931	1955	1883	1942	1945	1926
Motihari . . .	28.3	2.2	54.6	35.6	0	66.0	40.0	5.6	55.4	42.2	8.9	67.3	44.4	15.0	104.1	43.3	19.4	234.2	42.8	19.0	254.8
	1902	1905	1900	1896	..	1889	1941	1945	1891	1954	1905	1899	1903	1952	1890	1935	1903	1919	1955	1959	1935
Muzaffarpur . . .	..	..	25.4	..	..	8.9	..	..	21.6	..	..	30.5	..	..	25.4	..	..	99.1	..	..	129.5
	..	..	1959	..	..	1952	..	..	1959	..	..	1952	..	..	1958	..	..	1952	..	..	1957
Chapra . . .	..	..	50.4	..	..	15.0	..	..	9.4	..	..	17.0	..	..	27.9	..	..	135.4	..	..	120.9
	..	..	1959	..	..	1951	..	..	1957	..	..	1953	..	..	1953	..	..	1952	..	..	1952

X=Highest Maximum Temperature.

*Observatory started on 27.2.1959

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station	
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall		
Orissa—(Contd.)																		
35.0	21.7	130.8	35.0	21.7	147.1	37.3	15.0	59.7	33.3	10.6	26.7	31.7	8.3	3.3	1951	1951	Titilagarh	
1954	1951	1955	1953	1956	1952	1959	1954	1951	1956	1952	1958	1959	1957	1954				
33.6	21.1	81.8	34.9	22.2	88.2	34.5	17.7	40.0	32.6	11.1	12.8	31.3	8.8	7.4	1958	1958	Bolangir.	
1958	1958	1958	1959	1958	1959	1959	1958	1959	1959	1959	1959	1959	1959	1959				
36.1	21.1	257.3	35.6	21.7	148.8	35.6	14.4	117.9	33.9	8.9	99.1	31.7	7.2	22.9	1906	1906	Phublani* Angul.	
1915	1956	1931	1943	1950	1939	1918	1926	1929	1918	1910	1915	1957	1937	1909				
31.9	21.9	49.8	32.1	21.6	60.2	31.6	16.8	40.6	29.4	10.9	10.7	27.6	7.1	0.5	1958	1958	Keonjhar.	
1958	1958	1959	1958	1959	1959	1958	1958	1959	1959	1959	1958	1959	1959	1959				
35.0	21.1	265.9	36.1	20.6	200.9	36.1	12.8	173.7	33.9	7.8	106.2	32.2	4.4	39.1	1881	1881	Sambalpur.	
1954	1956	1934	1930	1921	1955	1920	1921	1936	1946	1926	1930	1902	1902	1885				
34.5	22.2	124.5	34.8	21.7	95.0	36.1	13.9	110.2	33.1	11.1	22.1	31.1	6.1	10.4	1954	1951	Jharsuguda.	
1957	1956	1953	1957	1956	1955	1957	1954	1952	1957	1956	1953	1957	1955	1954				
Bihar Plateau																		
35.6	23.3	169.2	35.6	21.1	160.4	35.6	15.0	115.4	32.7	8.9	69.1	31.1	7.2	12.5	1951	1951	Jamshedpur.	
1957	1955	1953	1958	1956	1958	1951	1954	1959	1959	1952	1953	1954	1955	1956				
35.1	22.0	92.5	35.1	20.6	129.1	35.6	15.0	54.4	32.3	8.9	28.5	31.3	7.2	12.7	1951	1951	Jamshedpur (P. B. O.).	
1957	1959	1951	1958	1956	1957	1951	1957	1955	1959	1952	1951	1957	1955	1956				
37.2	21.1	200.7	35.6	21.1	155.5	36.6	13.9	214.6	33.9	7.8	82.0	31.1	5.0	38.1	1911	1891	Chaibasa.	
1947	1913	1941	1946	1950	1953	1957	1954	1912	1937	1934	1941	1957	1913	1907				
33.3	19.4	147.3	35.6	16.1	152.9	35.1	10.6	231.1	32.2	5.6	79.5	30.0	4.4	32.3	1891	1891	Ranchi.	
1945	1939	1945	1944	1949	1893	1957	1949	1941	1896	1949	1930	1950	1955	1928				
32.0	20.8	66.5	32.0	19.4	113.6	31.9	14.5	111.0	28.6	9.3	7.4	27.8	5.6	7.6	1956	1956	Ranchi (C. W. O.).	
1958	1958	1957	1957	1957	1957	1957	1957	1959	1957	1959	1956	1957	1958	1956				
37.2	20.6	193.0	38.9	17.2	187.5	37.2	10.0	75.2	33.9	5.0	74.9	31.1	1.7	41.9	1896	1896	Daltonganj.	
1903	1916	1907	1958	1899	1946	1899	1921	1937	1918	1912	1924	1956	1930	1940				
33.7	20.0	180.1	33.3	17.8	147.1	33.3	11.1	120.4	31.7	4.4	95.0	29.4	3.9	39.4	1878	1881	Hazaribagh.	
1957	1942	1888	1945	1950	1898	1957	1934	1917	1896	1879	1924	1950	1945	1885				
35.6	22.7	81.0	35.1	22.2	82.6	34.9	17.7	110.8	32.2	12.8	0	30.0	8.8	0	1957	1957	Dhanbad.	
1957	1958	1959	1958	1957	1958	1957	1957	1959	1957	1959	..	1957	1959	..				
37.2	21.1	191.5	36.7	20.0	266.9	36.1	13.3	158.7	35.0	6.7	115.1	30.6	5.0	35.6	1891	1886	Dumka.	
1938	1948	1888	1938	1956	1935	1957	1954	1890	1896	1934	1930	1954	1935	1913				
Bihar Plains																		
37.3	21.7	239.3	37.2	19.4	318.5	35.6	10.0	158.0	32.8	7.2	114.8	30.6	3.3	53.3	1881	1881	Purnea.	
1957	1909	1918	1923	1890	1898	1957	1891	1929	1952	1883	1932	1953	1883	1913				
39.0	22.1	133.6	36.8	20.6	101.6	35.7	12.8	108.5	34.0	9.4	32.0	31.1	5.0	3.1	1954	1954	Forbesganj.	
1957	1955	1955	1957	1955	1958	1957	1957	1956	1958	1954	1956	1955	1955	1957				
37.5	21.1	264.4	36.7	19.4	266.7	36.1	14.4	186.7	33.0	7.2	49.0	29.4	4.4	25.1	1881	1881	Darbhanga.	
1957	1912	1913	1944	1896	1925	1938	1914	1919	1943	1926	1912	1943	1908	1929				
37.2	21.7	203.2	37.2	20.0	214.6	36.1	12.8	158.2	35.6	7.2	50.0	28.9	1.7	33.8	1884	1886	Motihari.	
1953	1884	1915	1953	1890	1898	1954	1895	1893	1955	1949	1932	1955	1896	1932				
..	..	193.5	99.1	54.6	8.9	6.9	..	1951	1951	Muzaffarpur.
..	..	1957	..	..	1956	..	..	1953	..	..	1952	..	..	1957			
..	..	138.9	96.0	67.4	44.7	13.2	..	1951	1951	Chapra.
..	..	1952	..	..	1953	..	..	1959	..	..	1956	..	..	1956			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A)—EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Bihar Plains—(Contd.)																					
Arrah . . . . .	..	..	103.1	..	..	20.1	..	..	76.5	..	..	69.9	..	..	123.0	..	..	105.4	..	..	107.9
	..	..	1957	..	..	1954	..	..	1957	..	..	1953	..	..	1959	..	..	1953	..	..	1955
Patna	28.9	2.8	57.4	34.4	2.2	40.6	40.6	7.8	53.1	43.3	14.4	46.7	45.6	17.2	109.2	46.1	20.0	350.5	41.7	21.1	177.8
	1939	1933	1957	1896	1905	1949	1941	1906	1881	1956	1905	1893	1941	1932	1887	1931	1912	1897	1903	1931	1893
Patna (Acrodrome)	28.8	3.9	51.8	34.4	6.1	12.7	40.0	10.4	36.0	43.3	15.1	32.8	45.4	17.8	32.0	45.6	21.1	90.4	39.7	23.9	130.6
	1958	1956	1957	1952	1951	1954	1955	1957	1959	1956	1959	1953	1958	1954	1959	1953	1952	1953	1958	1956	1957
Dehri	30.6	6.1	30.0	34.4	8.3	17.0	41.1	12.2	16.0	44.4	17.2	27.9	46.7	20.6	54.0	46.1	20.8	87.4	41.4	22.2	164.4
	1958	1956	1959	1952	1956	1952	1953	1957	1956	1956	1955	1951	1951	1955	1959	1958	1957	1951	1958	1951	1959
Gaya	31.7	3.3	66.0	35.6	3.9	49.8	41.7	8.3	37.6	45.0	14.4	41.4	46.7	17.2	54.1	47.2	18.3	229.6	43.3	16.7	209.8
	1939	1955	1901	1896	1950	1889	1941	1945	1891	1938	1886	1933	1948	1893	1904	1931	1913	1883	1926	1886	1886
Jamui	30.7	5.0	52.0	35.0	7.2	10.9	40.0	10.1	24.4	44.4	16.1	21.8	45.8	19.1	62.7	45.6	13.3	68.6	39.9	10.5	122.4
	1958	1955	1959	1952	1956	1955	1953	1957	1952	1956	1958	1953	1958	1959	1952	1958	1959	1956	1958	1959	1951
Bhagalpur	29.4	6.7	91.2	33.3	8.9	8.6	40.0	12.1	6.1	43.9	13.3	36.0	44.4	16.1	35.6	43.9	21.1	94.5	38.1	22.8	82.3
	1958	1956	1957	1956	1951	1955	1954	1957	1959	1956	1955	1959	1951	1955	1959	1953	1957	1952	1958	1956	1956
Sabour	29.0	0.6	99.6	33.3	2.8	41.7	41.1	3.9	34.3	43.3	13.3	47.5	45.1	16.1	58.6	46.1	19.4	170.2	37.8	22.8	145.0
	1958	1934	1957	1949	1950	1942	1941	1945	1940	1956	1957	1942	1958	1934	1959	1931	1934	1950	1958	1956	1934
Uttar Pradesh (East)																					
Gonda	28.9	1.1	52.6	33.3	3.3	41.4	41.1	5.6	40.4	44.4	13.9	71.4	49.9	18.3	104.1	46.7	16.7	127.8	41.7	20.0	215.4
	1946	1933	1953	1952	1934	1935	1941	1945	1944	1938	1955	1933	1958	1932	1956	1942	1936	1938	1957	1949	1955
Nautanwa	28.0	2.8	33.0	31.7	5.2	15.7	38.9	9.0	10.6	43.3	13.9	30.8	44.8	16.7	83.8	44.4	20.6	182.6	42.1	22.2	154.9
	1958	1955	1957	1956	1957	1956	1955	1959	1959	1956	1955	1959	1958	1955	1956	1958	1957	1955	1957	1957	1955
Gorakhpur	30.0	1.7	72.4	36.1	2.8	33.0	41.7	8.3	47.2	43.9	12.2	67.3	48.3	16.7	110.2	46.5	16.1	208.5	40.6	18.9	189.5
	1937	1933	1883	1896	1905	1949	1941	1927	1891	1956	1905	1887	1958	1937	1956	1958	1949	1932	1926	1953	1937
Azamgarh	28.9	3.3	38.9	35.0	3.3	37.6	43.3	10.6	28.7	44.4	16.1	14.2	45.6	19.4	30.0	46.7	21.7	81.5	41.1	21.1	186.7
	1952	1955	1957	1952	1950	1949	1949	1954	1958	1954	1953	1955	1953	1949	1959	1953	1955	1950	1954	1953	1955
Ballia	28.6	3.9	43.6	31.2	5.0	3.3	39.0	8.9	6.1	42.7	13.9	1.8	45.7	20.6	42.0	45.5	21.1	99.8	42.2	20.7	75.4
	1958	1957	1959	1958	1957	1958	1958	1957	1957	1959	1957	1959	1958	1957	1959	1958	1959	1958	1959	1957	1959
Varanasi (Banaras)	31.1	2.8	69.6	36.1	1.7	67.1	41.1	6.7	37.1	44.4	11.1	34.5	47.2	18.9	51.6	47.2	20.6	159.5	45.0	20.0	288.3
	1882	1955	1959	1884	1905	1949	1955	1906	1940	1954	1905	1928	1884	1926	1889	1901	1914	1890	1957	1919	1914
Varanasi (Banaras) (Babatpur Acrodrome).	29.4	1.7	37.8	34.4	5.9	21.3	41.1	10.0	11.9	43.9	16.1	5.1	46.1	20.6	26.8	46.1	21.7	75.7	40.6	22.1	166.4
	1958	1955	1959	1952	1957	1954	1953	1954	1957	1954	1959	1957	1952	1958	1959	1953	1958	1955	1954	1957	1955
Allahabad (Bamrauli).	31.1	2.2	70.9	36.1	1.1	51.3	41.7	7.2	34.5	45.0	12.8	26.4	47.2	17.2	35.6	47.8	19.4	176.0	45.6	22.2	209.3
	1934	1936	1900	1896	1905	1898	1931	1906	1958	1931	1905	1933	1922	1924	1917	1901	1930	1916	1901	1955	1920
Sultanpur	26.4	4.9	31.5	29.7	7.7	0	37.9	11.1	0	42.8	15.9	0	44.0	21.1	28.4	43.4	22.8	21.2	37.8	23.3	84.5
	1959	1959	1959	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959
Faizabad . . . . .	..	4.9	..	28.8	7.4	3.6	37.3	10.7	4.0	42.5	14.6	4.0	43.5	20.1	44.0	42.8	22.9	24.7	37.1	22.9	70.7
	..	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959
Banda	32.2	2.8	24.6	35.6	3.3	36.8	41.1	9.8	20.1	45.0	16.1	6.1	47.8	21.1	29.0	47.2	21.7	80.5	43.3	21.7	157.7
	1958	1955	1955	1956	1950	1954	1953	1959	1950	1958	1955	1958	1950	1951	1951	1958	1957	1953	1949	1949	1951
Fatehpur	32.2	1.1	46.5	35.0	2.8	49.8	41.7	8.3	52.8	45.0	14.4	37.1	47.2	20.0	17.0	46.7	21.1	74.7	43.3	21.7	175.3
	1943	1935	1934	1956	1950	1942	1953	1935	1950	1948	1946	1935	1952	1948	1948	1955	1947	1955	1943	1949	1932

X—Highest Maximum Temperature.

N—Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
Bihar Plains--(Contd.)																	
..	..	127.0	..	..	121.9	..	..	59.0	..	..	51.3	..	..	3.1	..	1951	Arrah.
..	..	1953	..	..	1952	..	..	1958	..	..	1956	..	..	1956			
38.3	21.7	165.3	37.8	20.0	366.0	36.1	15.0	158.2	33.9	8.3	63.7	30.6	6.1	73.7	1881	1881	Patna.
1903	1929	1914	1928	1890	1918	1932	1954	1894	1952	1934	1915	1951	1902	1929			
36.1	21.4	127.3	37.2	22.2	109.2	35.6	12.2	89.3	33.3	7.8	35.6	30.6	5.4	19.6	1951	1951	Patna (Acrodrome).
1957	1959	1959	1951	1957	1953	1951	1954	1959	1952	1952	1956	1951	1958	1957			
35.0	23.3	107.2	35.6	22.8	76.3	35.6	14.7	42.0	33.9	9.4	64.0	31.7	7.2	10.9	1951	1951	Delhi.
1958	1953	1958	1951	1956	1959	1951	1957	1959	1951	1952	1956	1952	1955	1956			
38.9	21.7	258.6	38.3	20.6	200.4	37.2	12.8	116.6	35.0	8.3	81.8	31.1	3.9	49.0	1881	1881	Gaya.
1935	1934	1942	1928	1890	1946	1918	1954	1894	1896	1953	1924	1929	1945	1885			
36.7	11.7	75.0	36.1	11.3	92.2	35.6	8.6	107.4	33.8	8.3	22.9	29.4	6.1	4.6	1951	1951	Jamui.
1957	1959	1958	1951	1959	1953	1951	1959	1959	1957	1952	1956	1954	1955	1956			
38.5	21.7	123.7	37.2	21.7	95.0	36.3	16.1	129.5	34.4	11.1	37.1	30.6	7.9	8.4	1951	1951	Bhagalpur.
1957	1957	1955	1956	1953	1953	1957	1954	1956	1952	1952	1956	1951	1958	1954			
37.4	22.8	106.9	37.8	21.7	136.7	35.6	13.3	155.5	33.4	6.1	37.3	29.4	3.3	7.9	1931	1931	Sabour.
1957	1933	1932	1933	1956	1942	1957	1954	1956	1957	1934	1956	1955	1942	1936			
Uttar Pradesh (East)																	
37.2	16.7	306.6	37.8	18.9	174.2	37.2	12.2	145.0	33.9	5.6	32.5	28.9	2.8	29.5	1932	1932	Gonda.
1939	1956	1938	1932	1950	1953	1951	1957	1933	1940	1934	1932	1951	1954	1950			
40.0	22.8	150.8	37.8	21.1	203.2	36.4	14.3	159.6	32.8	7.2	5.6	30.0	5.0	9.7	1954	1954	Nautanwa.
1956	1955	1958	1954	1954	1956	1957	1957	1958	1954	1954	1956	1953	1954	1957			
37.2	21.1	284.5	37.2	17.8	239.5	36.7	12.8	218.7	33.9	6.7	55.9	29.4	2.8	28.7	1881	1881	Gorakhpur.
1953	1944	1912	1954	1912	1930	1938	1895	1894	1952	1953	1956	1951	1913	1929			
36.7	22.8	130.6	38.3	18.9	210.8	37.8	13.3	81.0	36.1	6.7	40.9	31.1	5.0	12.5	1949	1949	Azamgarh.
1957	1955	1953	1951	1950	1956	1951	1954	1958	1951	1952	1956	1954	1954	1950			
36.8	20.7	149.1	36.1	19.6	65.3	36.1	10.4	71.2	32.8	5.8	0	29.9	6.3	1.8	1957	1957	Ballia.
1957	1957	1958	1959	1957	1957	1957	1957	1959	1957	1957	..	1958	1957	1957			
40.0	22.2	321.6	38.3	17.8	349.5	39.4	11.7	138.9	35.6	6.7	74.9	32.8	2.2	53.1	1881	1881	Varanasi (Banaras).
1903	1955	1940	1938	1912	1943	1896	1919	1900	1941	1926	1927	1956	1913	1929			
36.4	23.3	95.8	36.1	22.0	111.4	35.6	12.8	36.4	33.3	6.1	140.5	28.9	5.0	11.9	1952	1952	Varanasi (Banaras) (Babatpur Acrodrome).
1957	1956	1953	1952	1958	1959	1952	1954	1959	1952	1952	1956	1954	1955	1953			
40.0	21.1	335.3	39.4	18.3	266.2	40.6	11.7	163.3	35.6	5.6	96.0	31.1	2.2	54.6	1881	1881	Allahabad (Bamrauli).
1903	1953	1953	1928	1912	1938	1896	1898	1894	1918	1941	1956	1946	1902	1886			
35.7	24.4	33.2	36.1	20.7	75.6	35.1	16.5	22.2	32.9	9.7	0	28.4	6.0	0	1959	1959	Sultanpur.
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
35.5	23.8	97.6	35.5	21.6	66.0	35.6	15.1	97.2	31.6	8.4	0	27.7	4.6	0	1959	1959	Faizabad.
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
37.2	21.7	138.7	37.8	20.9	109.7	38.3	13.2	61.0	37.8	8.3	61.0	31.1	3.8	34.8	1949	1949	Banda.
1957	1957	1957	1951	1957	1954	1957	1957	1956	1951	1958	1956	1959	1958	1950			
39.4	21.7	191.8	38.3	19.4	125.0	38.9	12.8	84.3	35.6	6.1	12.2	31.1	2.2	39.4	1932	1932	Fatehpur.
1945	1953	1953	1932	1944	1939	1951	1952	1933	1944	1937	1936	1946	1945	1950			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Uttar Pradesh (East) (Contd.)																						
Kanpur	31.1	1.7	48.5	35.6	0.6	59.2	42.8	7.2	61.7	45.6	11.1	25.9	47.2	17.8	67.8	47.2	20.6	133.3	45.0	21.7	167.6	
	1939	1950	1893	1930	1905	1942	1941	1945	1944	1938	1905	1928	1941	1909	1959	1931	1922	1916	1903	1948	1924	
Kanpur (Aerodrome)	26.2	3.3	39.1	29.2	6.3	19.1	38.8	10.8	0	43.3	15.6	0.5	45.3	21.9	12.7	44.8	21.6	23.4	38.7	24.7	43.6	
	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Lucknow	30.6	1.1	95.3	35.0	1.7	61.5	41.7	7.2	28.2	45.6	12.8	129.5	47.2	17.8	103.4	48.3	19.4	229.4	45.6	21.7	311.7	
	1943	1946	1883	1921	1905	1928	1945	1945	1940	1898	1903	1909	1944	1886	1891	1901	1886	1886	1903	1950	1947	
Lucknow (Amausi Aerodrome)	28.3	0.6	42.3	33.3	4.4	22.1	39.4	6.1	25.4	43.3	12.8	1.2	45.0	19.3	57.0	45.6	21.1	109.1	41.7	22.8	133.1	
	1952	1955	1959	1952	1957	1954	1955	1954	1952	1954	1953	1959	1956	1958	1959	1953	1957	1958	1954	1953	1953	
Hardoi	28.9	2.8	54.9	32.8	5.0	35.1	38.9	9.4	40.6	43.3	13.9	6.3	45.3	20.6	26.9	48.3	20.6	134.1	41.7	22.8	153.9	
	1952	1955	1957	1952	1951	1954	1953	1958	1957	1954	1955	1951	1958	1955	1956	1951	1954	1952	1951	1955	1953	
Lakhimpur Kheri	27.8	2.8	49.8	32.8	5.1	36.6	39.4	9.7	19.8	43.3	15.0	4.6	45.0	16.7	46.7	46.1	17.3	91.9	40.6	22.2	148.3	
	1958	1955	1954	1953	1957	1954	1953	1958	1957	1954	1951	1952	1958	1958	1956	1958	1958	1952	1951	1954	1954	
Bahraich	28.9	0.6	57.7	34.4	0.6	49.5	40.6	5.6	50.5	44.4	11.1	61.0	45.6	15.6	88.9	46.7	18.3	269.5	44.4	20.6	186.2	
	1946	1936	1953	1952	1905	1905	1941	1945	1914	1954	1943	1909	1953	1944	1938	1958	1914	1929	1902	1900	1955	
Uttar Pradesh (West)																						
Orai	30.0	2.2	30.3	33.9	2.2	22.9	41.1	8.9	22.1	44.1	12.2	5.3	46.7	19.4	37.0	46.7	15.6	234.9	43.9	20.6	110.0	
	1952	1959	1957	1952	1951	1954	1955	1957	1951	1958	1954	1952	1954	1951	1959	1955	1957	1952	1951	1950	1953	
Jhansi	33.3	1.7	83.0	37.8	0.6	36.8	43.3	7.2	42.2	45.6	14.4	18.3	47.2	20.0	40.6	47.8	20.6	162.3	45.6	21.7	239.5	
	1946	1935	1959	1930	1929	1944	1892	1945	1950	1958	1935	1933	1947	1947	1943	1924	1922	1942	1900	1958	1927	
Agra	31.1	-2.2	49.5	35.6	-1.7	51.8	42.8	5.6	36.3	45.0	11.7	32.5	47.2	16.7	32.3	48.3	19.4	97.3	45.6	21.1	152.7	
	1946	1935	1957	1897	1929	1915	1892	1945	1957	1941	1940	1944	1943	1926	1926	1889	1922	1886	1919	1951	1886	
Agra (Aerodrome)	27.0	1.4	11.9	29.8	5.1	0.4	38.3	10.3	0	42.2	14.3	0.6	44.9	21.7	20.1	45.3	25.3	10.4	38.3	24.3	32.9	
	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Mainpuri	30.6	-1.7	31.5	34.4	-0.6	60.2	41.7	5.0	33.3	45.6	11.1	29.7	47.8	15.6	37.6	47.8	18.9	191.0	45.6	18.3	135.9	
	1946	1927	1929	1922	1905	1898	1945	1945	1957	1948	1903	1914	1943	1955	1938	1948	1949	1952	1903	1934	1927	
Aligarh	30.6	0.6	40.6	32.2	1.7	45.0	41.7	3.9	24.6	44.4	10.9	30.5	46.1	17.8	39.4	46.3	18.6	144.3	43.9	20.6	164.6	
	1946	1935	1944	1956	1950	1954	1945	1945	1934	1948	1957	1933	1954	1957	1941	1958	1957	1933	1948	1957	1942	
Barcilly	29.4	0.6	61.0	32.8	0	95.3	40.0	5.0	79.3	43.9	11.1	38.1	46.7	16.1	40.1	46.1	19.4	218.4	43.9	20.0	251.2	
	1943	1905	1921	1884	..	1915	1945	1945	1926	1952	1905	1909	1884	1898	1956	1948	1912	1908	1903	1931	1882	
Meerut	27.2	1.7	34.0	31.1	2.8	56.4	37.8	8.3	54.6	43.1	12.2	30.5	45.0	19.1	12.7	45.0	19.4	39.6	42.8	22.2	146.1	
	1952	1951	1959	1956	1950	1949	1955	1954	1951	1958	1955	1946	1954	1957	1953	1958	1951	1953	1949	1955	1953	
Najibabad	26.9	0.6	48.0	32.8	2.2	48.3	36.7	2.2	37.1	40.9	11.7	17.8	43.4	16.1	30.5	45.1	18.3	89.5	41.6	21.7	188.0	
	1958	1955	1953	1956	1958	1954	1953	1952	1942	1958	1959	1953	1957	1955	1956	1958	1954	1958	1957	1957	1958	
Roorkee	28.3	-1.1	101.6	31.7	-2.2	111.0	38.9	2.8	109.5	43.3	7.2	38.3	46.1	14.4	57.7	46.7	16.1	148.8	45.0	21.1	228.9	
	1898	1935	1883	1956	1905	1930	1945	1945	1955	1897	1905	1949	1884	1907	1910	1932	1900	1906	1931	1955	1889	
Dhara Dun	26.1	-1.1	79.5	29.4	-1.1	106.2	37.2	-2.2	81.5	40.6	7.8	39.1	42.8	12.8	79.3	43.9	13.9	188.0	40.6	18.3	294.6	
	1946	1945	1945	1956	1905	1949	1892	1945	1926	1892	1944	1898	1944	1947	1940	1902	1907	1925	1931	1902	1890	
Punjab (India) (Including Delhi)																						
New Delhi	29.4	-0.6	116.8	33.3	1.7	104.1	41.1	4.4	62.2	45.6	11.7	40.9	47.2	18.3	30.5	46.7	18.9	235.5	45.0	21.7	266.2	
	1946	1935	1885	1934	1950	1942	1945	1945	1915	1941	1940	1909	1944	1952	1885	1945	1932	1936	1931	1943	1958	
New Delhi (Palam Aerodrome)	25.3	1.2	29.9	28.2	4.5	0.8	37.2	8.6	0.8	41.2	14.1	0	45.2	20.3	9.3	45.7	23.7	11.3	40.3	24.2	45.8	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Uttar Pradesh (East)—(contd.)																	
40.6	21.7	235.2	40.0	16.1	233.9	40.6	11.1	136.1	36.1	5.0	59.2	31.3	1.7	40.6	1891	1891	Kanpur
1903	1948	1915	1932	1896	1915	1896	1895	1894	1940	1948	1911	1959	1902	1950			
35.6	24.1	64.2	35.7	21.5	58.4	36.1	15.6	2.0	34.2	9.6	2.5	30.3	4.4	0	1959	1959	Kanpur (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
38.9	21.2	177.8	39.4	17.8	250.2	40.0	11.1	128.4	35.0	5.6	48.3	33.3	1.7	50.5	1881	1881	Lucknow
1911	1958	1881	1920	1899	1915	1896	1895	1958	1951	1926	1927	1896	1902	1885			
36.9	22.2	117.8	40.1	19.7	148.6	37.2	10.6	191.4	33.9	3.9	4.8	29.1	2.2	4.6	1952	1952	Lucknow (Amausi Aerodrome).
1957	1956	1958	1958	1957	1957	1952	1957	1958	1952	1952	1956	1959	1954	1957			
36.8	21.6	197.4	36.7	16.7	172.7	37.8	11.1	87.1	33.9	6.1	7.9	31.8	3.3	15.7	1950	1950	Hardoi.
1957	1958	1956	1951	1950	1957	1952	1954	1955	1951	1952	1951	1959	1954	1950			
36.7	22.2	131.1	36.1	18.9	90.2	35.0	12.8	164.9	35.3	6.1	5.3	27.8	4.4	14.2	1950	1950	Lakhimpur Kheri.
1952	1957	1957	1956	1950	1958	1953	1954	1956	1957	1952	1951	1953	1950	1950			
38.3	21.1	325.9	38.3	18.3	236.2	37.8	12.2	171.5	33.3	5.0	78.0	31.7	1.7	81.0	1896	1896	Bahraich.
1903	1956	1938	1907	1912	1919	1907	1935	1945	1951	1952	1927	1896	1913	1956			
Uttar Pradesh (West)																	
37.3	20.0	232.4	37.8	17.8	76.2	38.3	11.1	59.0	34.4	4.4	8.1	30.6	2.2	45.0	1950	1950	Orai
1957	1950	1957	1951	1950	1957	1951	1957	1959	1959	1950	1951	1954	1950	1950			
42.2	21.7	249.7	40.6	18.3	261.6	40.6	12.2	119.6	36.1	5.0	62.2	32.8	2.2	24.4	1881	1881	Jhansi
1911	1939	1930	1913	1942	1910	1913	1957	1903	1941	1938	1927	1940	1937	1924			
42.2	20.8	149.9	40.6	17.2	236.0	41.1	9.4	169.7	36.1	2.8	45.7	30.0	-0.6	26.7	1881	1881	Agra
1918	1957	1952	1920	1935	1939	1920	1939	1910	1909	1926	1911	1954	1926	1923			
35.7	23.7	119.8	35.8	21.1	25.8	36.5	14.6	6.6	33.5	8.1	8.6	29.2	3.7	0	1959	1959	Agra (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
42.2	21.7	256.3	40.6	16.7	186.4	40.6	10.6	178.3	36.1	4.4	31.7	31.1	-1.1	59.2	1896	1896	Mainpuri
1918	1947	1949	1905	1912	1931	1896	1932	1903	1948	1938	1927	1959	1926	1923			
40.6	20.1	155.7	40.0	18.9	161.8	41.7	11.7	138.7	36.1	5.0	14.0	32.8	2.2	17.8	1932	1932	Aligarh.
1941	1957	1957	1938	1935	1947	1952	1949	1955	1944	1937	1951	1948	1945	1935			
40.6	21.1	224.3	38.3	16.7	206.8	38.3	8.9	179.6	36.1	5.6	63.0	29.4	1.7	37.6	1881	1881	Bareilly.
1918	1916	1948	1932	1899	1912	1918	1887	1884	1920	1934	1904	1889	1913	1923			
38.3	21.7	168.0	37.8	19.4	143.3	37.8	11.7	113.0	33.3	5.6	12.5	29.1	2.2	18.0	1945	1945	Meerut.
1954	1956	1958	1951	1950	1955	1951	1955	1954	1952	1952	1951	1959	1949	1958			
36.7	20.9	118.9	35.6	18.3	175.3	35.0	10.0	160.5	33.9	3.3	11.4	26.7	-0.6	37.8	1952	1952	Najibabad.
1956	1957	1956	1956	1957	1957	1953	1954	1956	1952	1956	1956	1955	1956	1958			
39.4	20.6	192.8	38.3	15.6	266.7	38.3	8.9	231.7	33.9	2.8	58.2	28.3	-0.6	58.2	1881	1881	Roorkee.
1918	1914	1889	1899	1944	1888	1899	1953	1956	1952	1934	1911	1889	1902	1923			
37.2	19.4	332.2	34.4	14.4	212.6	36.1	9.4	137.4	30.6	2.8	78.7	26.6	0	108.5	1881	1881	Dehra Dun.
1949	1932	1951	1938	1940	1924	1907	1938	1956	1952	1938	1911	1959	..	1923			
Punjab (India) (Including Delhi),																	
40.0	22.2	181.6	40.6	17.8	176.5	39.4	9.4	172.7	35.0	3.9	20.8	28.9	-1.1	53.3	1881	1881	New Delhi.
1945	1939	1891	1938	1944	1904	1951	1937	1954	1943	1938	1925	1959	1945	1894			
36.4	23.9	35.3	36.1	22.4	25.6	36.4	14.7	22.5	33.4	9.1	35.0	28.3	2.2	0	1959	1959	New Delhi (Palam Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

.. = Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Punjab (India) (Including Delhi)— (contd.)																						
Hissar	30.6	-3.9	58.4	34.4	-2.2	46.0	45.6	2.8	39.4	47.9	8.3	22.6	48.3	14.4	-1.1	47.8	17.8	69.1	47.2	20.6	104.1	
	1952	1929	1948	1956	1929	1937	1945	1945	1927	1958	1918	1944	1944	1948	1916	1954	1922	1939	1947	1952	1923	
Karnal	27.2	1.7	32.5	31.7	2.2	45.7	36.7	7.0	33.5	42.8	11.2	26.4	45.0	17.6	21.1	45.6	19.0	68.6	43.9	20.6	131.1	
	1952	1955	1957	1956	1950	1954	1953	1957	1956	1952	1957	1955	1952	1957	1951	1958	1957	1954	1959	1955	1950	
Patiala	27.8	0.6	37.0	33.3	1.7	59.2	37.8	6.7	27.4	42.8	12.8	11.4	46.7	17.2	16.8	46.1	19.4	70.4	45.0	22.2	238.0	
	1952	1951	1959	1956	1950	1949	1953	1957	1951	1958	1951	1957	1954	1955	1950	1955	1952	1954	1951	1959	1949	
Ambala	28.9	-1.1	104.9	33.3	-0.6	146.8	41.7	3.9	103.9	45.0	10.0	82.0	47.8	14.4	85.1	47.8	19.4	105.9	46.7	19.4	162.3	
	1946	1947	1953	1956	1905	1898	1945	1945	1956	1941	1944	1935	1944	1920	1913	1923	1939	1954	1903	1956	1945	
Ambala (Aerodrome)	22.2	1.7	28.1	26.7	3.9	9.8	35.9	8.2	27.0	40.3	11.4	0	43.9	18.4	15.2	45.1	21.3	64.2	38.3	22.2	75.1	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959		1959	1959	1959	1959	1959	1959	1959	1959	1959	
Chandigarh	26.3	0	33.0	32.8	1.7	42.4	35.6	6.1	38.9	41.2	11.2	21.8	43.3	15.0	17.8	45.3	17.8	57.4	41.6	18.3	105.4	
	1958		1957	1954	1956	1954	1958	1956	1956	1958	1959	1957	1954	1955	1959	1958	1956	1959	1957	1956	1955	
Halwara	21.7	0.2	12.7	25.1	2.8	8.9	33.3	5.6	2.5	40.0	9.3	0	43.6	18.3	43.2	44.9	21.7	30.5	39.2	22.2	107.7	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Bhatinda*																						
Ludhiana	28.9	-1.7	119.6	33.3	-1.1	71.9	41.1	3.9	89.9	46.1	8.9	55.9	48.3	15.6	31.2	47.9	18.3	108.7	47.8	16.1	163.1	
	1910	1935	1911	1956	1903	1942	1945	1945	1951	1941	1905	1944	1944	1924	1913	1958	1952	1894	1881	1901	1893	
Ferozepur	27.2	-2.5	45.2	33.3	0.6	29.0	37.2	5.0	55.1	44.9	10.6	15.0	47.2	14.4	29.0	46.7	15.5	42.4	45.1	21.1	119.6	
	1952	1959	1957	1953	1951	1954	1955	1951	1957	1958	1955	1955	1954	1955	1951	1954	1958	1953	1957	1953	1951	
Amritsar	25.0	-1.7	35.5	32.2	-0.6	25.9	35.6	3.9	39.4	43.3	8.8	15.2	46.1	13.3	24.6	46.7	15.6	39.6	45.6	20.6	146.3	
	1952	1955	1957	1953	1958	1950	1953	1954	1951	1958	1957	1951	1954	1955	1951	1953	1958	1958	1954	1955	1948	
Pathankot	26.1	0	65.5	29.4	3.3	49.3	35.2	6.1	83.1	41.7	7.2	29.2	44.4	12.2	24.4	45.6	18.3	94.0	43.4	17.2	192.0	
	1952	..	1954	1956	1955	1954	1958	1954	1956	1958	1955	1955	1952	1955	1952	1953	1957	1956	1957	1955	1954	
Pathankot (Aerodrome)	23.3	3.3	25.5	26.6	3.3	20.8	35.0	7.0	18.0	42.2	10.0	15.1	42.8	16.4	50.8	45.7	19.8	22.3	40.4	21.1	170.5	
	1958	1959	1959	1958	1959	1959	1958	1958	1958	1958	1959	1958	1959	1958	1959	1958	1958	1958	1958	1959	1959	
Adampur (Aerodrome)	21.8	0.3	21.1	24.8	1.8	40.5	33.3	4.9	8.7	38.9	9.4	2.3	42.4	15.6	21.6	44.4	20.3	33.0	33.9	21.5	94.5	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Himachal Pradesh																						
Bilaspur	24.6	1.8	40.8	26.6	0.8	17.0	33.9	5.5	35.6	40.7	9.3	23.9	41.6	13.5	14.7	44.2	16.7	49.8	41.8	21.3	98.0	
	1957	1957	1959	1958	1958	1959	1959	1958	1957	1958	1959	1957	1959	1958	1957	1958	1958	1957	1957	1957	1959	
Mandi	23.9	-2.8	28.2	27.8	0.2	43.2	32.3	4.3	38.3	38.9	6.7	26.7	40.6	9.9	24.6	42.7	15.3	63.5	39.4	16.1	103.4	
	1956	1955	1959	1956	1957	1959	1959	1958	1955	1958	1955	1955	1956	1959	1959	1958	1958	1956	1954	1955	1958	
Jammu and Kashmir																						
Srinagar	17.2	-14.4	147.8	20.6	-20.0	66.3	25.6	-5.6	70.1	31.1	0	65.3	35.6	2.8	52.8	37.8	7.2	65.8	38.3	10.6	79.0	
	1902	1893	1930	1940	1895	1906	1931	1895	1920	1946	..	1957	1936	1920	1931	1946	1935	1907	1946	1919	1959	
Srinagar (Aerodrome)	8.1	-10.8	32.0	8.0	-9.9	36.4	20.8	-2.8	42.4	24.9	2.9	10.7	28.3	6.6	23.6	32.5	9.7	9.1	32.3	12.8	58.4	
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	
Gulmarg . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	-1.7	..	29.4	-3.9	83.3	29.4	-2.8	236.2
	..	..	..	..	..	..	..	..	..	..	..	..	..	1955	..	1922	1935	1921	1918	1907	1959
Sonamarg . . . . .	..	..	88.9	..	..	77.2	..	..	78.0	..	..	55.9	..	..	53.3	..	..	48.3	..	..	39.1
	..	..	1950	..	..	1951	..	..	1951	..	..	1953	..	..	1955	..	..	1948	..	..	1948
Dras	5.0	-42.8	63.5	6.7	-43.3	105.4	10.0	-33.9	104.9	18.3	-25.0	65.8	25.0	-15.0	127.0	30.6	-10.0	60.0	33.9	0.6	36.8	
	1907	1909	1943	1928	1911	1928	1903	1911	1930	1946	1905	1928	1910	1947	1958	1906	1947	1958	1905	1907	1901	

X—Highest Maximum Temperature. *Observatory started from June 1959

N—Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UP TO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
43.3	21.7	346.7	42.2	15.6	259.1	41.7	8.3	122.7	36.7	2.8	48.0	31.1	-1.1	38.1	1916	1916	Punjab (India) (Including Delhi) —(contd.) Hissar.
1918	1918	1926	1938	1923	1917	1951	1949	1917	1943	1926	1959	1959	1945	1924			
40.6	20.3	167.6	38.3	6.7	117.6	39.3	11.1	130.3	34.4	5.6	23.0	27.8	0.6	23.6	1949	1949	Karnal.
1952	1957	1952	1951	1949	1950	1957	1957	1956	1953	1953	1959	1959	1954	1958			
40.0	21.6	168.7	40.6	18.3	82.0	38.9	10.0	81.0	33.3	4.4	52.1	28.3	0.6	21.3	1948	1948	Patiala.
1954	1957	1955	1951	1950	1957	1951	1948	1955	1952	1952	1951	1959	1954	1957			
43.9	20.0	228.9	46.6	15.6	244.8	39.4	8.3	38.4	35.6	2.8	135.1	29.4	-0.6	47.5	1896	1896	Ambala.
1918	1939	1896	1951	1912	1945	1941	1898	1916	1947	1926	1951	1944	1913	1924			
35.0	22.8	82.7	34.9	20.3	91.5	33.9	12.9	14.2	30.7	5.7	15.9	26.8	1.4	0	1959	1959	Ambala (Aerodrome).
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
37.4	18.9	05.2	37.3	17.2	234.9	35.2	9.4	63.7	33.4	4.4	13.5	27.9	1.1	28.7	1954	1954	Chandigarh.
1957	1956	1959	1958	1955	1955	1957	1955	1955	1958	1957	1957	1958	1955	1957			
37.6	22.8	90.2	35.6	21.1	35.6	36.1	12.2	12.7	31.1	6.7	17.0	27.2	0.6	0	1959	1959	Halwara
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
44.4	20.8	81.9	41.7	15.6	206.5	40.0	9.4	354.3	35.0	2.2	25.4	29.4	1.1	60.5	1881	1881	Bhatinda* Ludhiana.
1884	1957	1887	1905	1940	1883	1941	1932	1955	1909	1937	1957	1944	1930	1894			
40.0	21.3	116.8	39.4	18.3	209.6	39.4	8.3	63.3	35.0	4.3	42.7	28.3	-1.7	44.5	1950	1950	Ferozepur.
1958	1957	1953	1954	1953	1958	1952	1952	1955	1951	1958	1951	1953	1950	1957			
40.0	19.3	79.8	40.6	17.2	122.4	38.3	8.3	190.5	32.2	-0.6	19.3	27.7	-2.8	20.3	1948	1948	Amritsar.
1954	1957	1956	1949	1953	1954	1951	1953	1955	1952	1949	1951	1958	1950	1953			
36.2	18.9	150.4	36.7	15.6	137.2	36.7	10.6	277.9	32.2	5.6	26.7	26.1	1.1	13.4	1951	1951	Pathankot.
1957	1952	1956	1952	1953	1954	1952	1955	1955	1952	1955	1951	1955	1955	1958			
35.1	20.9	118.2	35.3	18.8	120.4	34.4	13.5	46.3	30.6	5.7	18.3	27.2	3.1	31.9	1958	1958	Pathankot (Aerodrome)
1959	1958	1959	1953	1958	1959	1959	1959	1958	1958	1958	1959	1959	1959	1958			
37.2	22.2	41.1	36.6	21.1	48.8	35.1	13.9	59.3	..	..	..	..	..	..	1959	1959	Adampur (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	..	..	..	..	..	..
35.4	20.0	68.6	35.4	16.1	103.4	32.8	9.7	45.0	30.3	3.1	34.8	26.5	0.9	29.8	1957	1957	Himachal Pradesh Bilaspur.
1957	1957	1957	1957	1957	1957	1957	1957	1958	1958	1958	1957	1959	1959	1957			
34.2	16.6	146.3	33.9	14.9	96.5	31.7	6.7	74.7	29.5	2.8	26.4	25.6	-2.2	35.3	1945	1945	Mandi.
1957	1957	1954	1956	1957	1954	1959	1954	1955	1958	1956	1957	1959	1954	1958			
36.7	10.0	67.3	35.0	4.4	102.4	33.9	-1.7	59.9	23.9	-3.3	64.3	18.3	-11.7	64.5	1891	1891	Jammu and Kashmir Srinagar.
1946	1932	1929	1934	1940	1928	1931	1934	1917	1946	1958	1959	1901	1902	1904			
33.4	16.2	20.3	30.6	13.1	19.8	28.3	3.1	9.7	17.7	-1.3	67.2	14.6	-4.7	7.9	1959	1959	Srinagar (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959			
26.7	2.8	115.3	25.0	-2.8	90.9	..	-5.6	..	..	..	..	..	..	..	1901	1901	Gulmarg.
1922	1951	1929	1934	1940	1905	..	1957	..	..	..	..	..	..	..
..	..	22.1	..	..	251.2	..	..	31.7	..	..	29.2	..	..	54.4	..	1948	Sonamarg.
..	..	1952	..	..	1954	..	..	1949	..	..	1949	..	..	1950			
31.7	-2.2	40.0	29.4	-5.6	58.4	25.0	-20.0	88.9	15.0	-29.4	61.7	9.4	-45.0	81.5	190 To 1949	1901	Dras.
1907	1913	1958	1906	1906	1928	1916	1937	1917	1902	1911	1946	1904	1910	1921			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S. T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Jammu and Kashmir <i>—(contd.)</i>																					
Kargil	6.7	-32.8	61.0	17.8	-31.7	64.5	18.3	-25.0	104.4	25.6	-11.7	76.2	32.8	-6.1	59.7	40.0	-0.6	17.8	43.3	5.0	24.1
	1940	1919	1943	19.4	1920	1930	1941	1916	1930	1923	1919	1922	1917	1920	1940	1914	1921	1921	1912	1918	1929
Leh	8.3	-28.3	21.4	12.8	-25.6	16.8	19.4	-19.4	16.0	23.9	-12.8	22.1	28.9	-4.4	22.3	33.9	-1.1	11.7	33.3	0.6	23.6
	1916	1899	1893	1953	1943	1903	1908	1903	1930	1941	1903	1896	1893	1886	1951	1882	1886	18.2	1883	1929	1882
Sakardu . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gurez . . . . .	..	..	76.2	..	..	127.0	..	..	152.2	..	..	152.4	..	..	101.6	..	..	63.5	..	..	101.6
	..	..	1954	..	..	1958	..	..	1958	..	..	1958	..	..	1958	..	..	1949	..	..	1958
Gilgit . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Misgar . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jammu	26.7	0.6	94.7	31.7	1.1	110.7	37.2	4.4	88.9	43.9	10.0	66.0	46.1	15.0	33.0	47.2	18.3	114.8	45.0	16.1	179.1
	1926	1945	1932	1947	1929	1914	1945	1945	1915	1941	19.8	1914	1954	1914	1930	1953	1936	1953	1951	1951	1917
Jammu (Aerodrome)	..	4.7	55.4	..	4.6	35.6	..	7.6	15.8	..	12.1	1.8	..	17.4	4.3	..	21.4	9.9	38.4	21.8	276.1
	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	1959	1959	1959
Rajasthan (West)																					
Sri Ganganagar	36.1	-2.2	35.1	35.0	-2.8	28.2	41.1	0.6	47.0	46.6	3.3	22.3	46.1	11.7	48.0	50.0	18.3	99.1	46.7	21.7	86.1
	1948	1945	1948	1953	1950	1948	1942	1945	1957	1958	1940	1944	1959	1945	1951	1934	1952	1938	1948	1952	1956
Churu	29.2	-0.1	15.0	32.0	2.1	5.4	39.0	6.9	13.8	45.9	11.5	0.5	45.7	18.7	8.7	45.2	21.1	17.0	44.8	22.5	76.0
	1958	1959	1957	1959	1957	1959	1959	1958	1957	1958	1957	1958	1959	1958	1959	1958	1957	1957	1957	1957	1958
Bikaner	31.1	-2.2	25.4	37.2	-2.2	46.7	42.8	-0.6	43.9	47.2	8.3	31.0	49.4	16.7	48.3	48.9	17.8	110.7	47.2	20.6	134.1
	1952	1954	1958	1953	1950	1906	1924	1898	1911	1925	1953	1944	1914	1930	1333	1897	1838	1894	1901	1931	1920
Jaisalmer	30.6	-4.4	7.6	37.8	-2.2	5.3	41.6	6.1	8.9	43.9	10.6	13.6	47.8	19.6	16.0	45.8	20.5	19.8	45.0	21.7	98.0
	1952	1949	1957	1953	1951	1952	1958	1954	1955	1949	1953	1959	1956	1958	1951	1959	1957	1953	1951	1955	1954
Phalodi	31.1	-3.3	41.1	37.8	0.6	23.4	41.7	1.7	12.9	47.0	12.2	5.1	47.2	19.4	33.8	46.7	20.6	84.8	45.6	22.2	105.2
	1946	1942	1944	1953	1951	1948	1945	1945	1948	1958	1953	1944	1956	1944	1953	1944	1945	1945	1947	1950	1948
Nagaur	28.1	2.4	0	32.2	3.2	0	40.1	10.6	0	41.8	16.7	5.5	45.8	19.6	16.0	43.5	26.7	2.0	39.3	22.7	37.0
	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959
Jodhpur	32.8	-2.2	40.1	38.3	-0.6	22.6	41.8	5.0	20.6	48.0	9.4	26.7	48.9	17.2	38.1	47.8	19.4	152.9	45.6	19.4	194.1
	1932	1905	1948	1953	1920	1939	1959	1908	1926	1958	1918	1919	1932	1909	1916	1901	1914	1917	1901	1926	1943
Barmer	33.3	-1.7	59.9	39.4	4.0	23.6	43.3	8.9	24.6	48.3	12.2	23.1	48.9	16.7	36.6	46.7	18.9	55.1	44.4	19.4	124.5
	1949	1935	1915	1943	1957	1939	1946	1945	1940	1958	1945	1933	1932	1931	1945	1946	1931	1933	1939	1936	1944
Rajasthan (East)																					
Pilani	29.7	0.5	2.8	29.4	2.2	2.4	39.2	8.3	3.2	43.3	12.7	0	46.1	18.8	33.0	46.1	24.4	15.0	40.6	18.3	21.6
	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959
Alwar	28.3	1.6	30.4	34.4	4.4	1.3	38.4	10.0	15.7	46.4	16.1	3.6	50.6	19.3	23.0	48.8	23.8	38.6	42.8	22.3	55.8
	1956	1959	1957	1956	1959	1958	1959	1956	1958	1958	1956	1959	1956	1958	1959	1957	1959	1957	1957	1958	1959
Sikar	30.6	-2.2	19.1	36.1	-2.8	16.5	39.4	4.4	10.9	44.4	8.3	5.3	47.8	15.6	51.3	43.9	20.6	53.3	44.4	21.7	29.3
	1949	1955	1957	1953	1953	1954	1849	1856	1956	1958	1955	1953	1956	1955	1959	1948	1954	1955	1947	1956	1957
Jaipur*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Observatory closed from 1-5-1959.

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UP TO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X		R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Jammu and Kashmir—(contd.)																	
40.6	5.6	25.4	38.3	-0.6	20.3	32.2	-10.6	54.9	20.0	-9.4	15.2	12.2	-10.6	53.6	1911 1949	1911	Kargil
19.2	1920	1923	19.4	1920	1941	1916	1917	1917	19.5	1937	19.8	1941	1937	1941			
32.2	2.8	51.3	30.6	-4.4	25.9	25.6	-7.8	39.1	20.0	-13.9	16.2	12.8	-25.6	15.2	1881	1881	Leh
1946	1941	1933	1883	1940	1893	1916	1923	1955	1929	1934	1959	1891	1937	1944			
..
..
..	..	63.0	..	..	162.6	..	..	65.1	..	..	16.5	..	..	101.6	..	1948	Gurez
..	..	1956	..	..	1953	..	..	1949	..	..	1950	..	..	1948	..	..	Gilgit
..
..
..
..
41.7	17.8	228.6	38.3	15.0	184.1	37.2	12.2	60.0	32.5	6.7	40.1	27.2	3.3	66.8	1911	1911	Jammu
1918	1912	1926	1954	1950	1950	1951	19.4	1955	1958	1943	1928	1944	1914	1924			
36.2	23.1	84.5	34.6	20.6	68.6	34.4	15.0	27.7	28.3	9.2	33.2	25.9	2.0	0	1959	1959	Jammu (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
Rajasthan (West)																	
42.8	21.7	146.1	42.8	15.6	35.8	41.1	6.7	7.9	37.2	1.7	20.6	31.1	-1.7	29.6	1934	1937	Sri Ganganagar.
1946	1950	1948	1939	1944	1958	1952	1949	1956	1943	1938	1959	1959	1950	1958			
41.4	23.7	55.6	33.0	18.9	51.2	38.0	10.6	12.7	35.1	5.2	13.0	31.2	0.9	5.2	1957	1957	Churu.
1957	1957	1959	1958	1957	1958	1959	1957	1957	1957	1958	1959	1959	1959	1958			
43.3	21.1	142.0	43.9	19.4	165.6	42.2	7.8	95.8	37.2	0.6	41.9	32.2	-2.8	30.0	1881	1881	Bikaner.
1899	1889	1909	1915	1924	1945	1951	1949	1917	1943	1937	1951	1954	1950	1892			
43.3	21.7	104.4	43.3	21.0	36.0	42.2	8.3	9.4	37.8	5.0	22.1	32.8	1.1	6.3	1948	1948	Jaisalmer.
1958	1955	1955	1949	1957	1958	1951	1949	1958	1950	1956	1957	1953	1955	1957			
43.1	21.7	72.4	40.6	20.1	63.5	42.2	8.9	24.1	36.7	5.0	13.5	32.2	0.6	11.1	1941	1941	Phalodi.
1957	1956	1953	1951	1957	1954	1941	1949	1956	1943	1946	1957	1953	1945	1948			
37.9	23.9	27.2	37.2	21.7	17.2	37.8	14.9	6.3	32.9	9.5	0	31.4	1.6	0	1959	1959	Nagaur
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
42.9	20.6	184.4	42.8	17.8	215.9	42.2	10.0	142.0	37.2	5.6	26.9	33.3	-0.6	22.9	1891	1891	Jodhpur.
1957	1927	1927	1915	1908	1924	1920	1949	1917	1957	1938	1893	1953	1945	1937			
43.3	20.0	255.5	42.8	16.7	55.4	42.8	13.9	18.0	38.2	6.7	27.6	34.4	2.3	14.0	1931	1931	Barmer.
1957	1941	1944	1951	1935	1955	1951	1933	1956	1957	1946	1958	1944	1959	1942			
Rajasthan (East)																	
38.3	23.8	76.4	36.7	22.2	26.2	37.2	13.3	19.2	33.3	8.3	17.4	31.1	0.5	0	1959	1959	Pilani
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
39.4	21.7	60.7	37.8	21.7	78.0	40.6	13.3	91.7	35.0	6.8	24.4	29.5	4.5	8.1	1956	1956	Alwar.
1957	1957	1956	1957	1956	1957	1957	1958	1956	1957	1958	1959	1959	1958	1956			
40.0	21.1	89.7	39.4	16.7	66.1	40.6	4.3	49.5	34.2	2.2	22.1	30.6	-1.7	20.3	1946	1946	Sikar.
1957	1955	1947	1954	1957	1955	1951	1958	1955	1957	1946	1951	1959	1954	1946			
..
..
..

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Rajasthan (East) (Contd.) Jaipur (Sanganer Aerodrome)	28.9	0	45.2	36.1	3.3	12.5	38.9	7.8	14.0	44.9	12.8	6.3	46.1	17.3	67.6	45.6	20.1	32.8	43.1	21.7	96.8
	1952	..	1957	1953	1956	1952	1953	1958	1957	1958	1955	1952	1956	1959	1959	1954	1957	1959	1957	1958	1957
Dholpur	30.2	1.8	8.4	33.3	4.4	19.3	43.3	8.9	26.7	45.8	15.0	8.1	46.2	20.3	35.3	46.1	23.2	76.2	42.2	23.3	102.6
	1958	1959	1959	1956	1957	1958	1955	1957	1957	1958	1959	1959	1958	1959	1959	1955	1958	1955	1957	1956	1957
Tonk*																					
Ajmer	31.7	-2.2	46.5	35.6	-1.1	33.0	41.7	2.2	42.4	44.6	9.4	38.1	45.6	15.6	43.2	45.0	17.2	119.4	44.4	20.0	148.1
	1902	1935	1948	1953	1905	1907	1892	1898	1932	1958	1886	1909	1912	1881	1925	1901	1944	1917	1901	1931	1943
Kotah	33.9	1.7	35.8	38.3	2.2	50.8	42.8	7.2	17.8	47.5	14.4	25.9	47.8	18.9	53.3	47.8	21.1	132.1	46.1	22.2	249.2
	1912	1929	1915	1943	1929	1915	1945	1945	1944	1958	1905	1933	1944	1930	1917	1945	1941	1917	1901	1939	1945
Chambal	30.0	0	8.9	35.0	0.5	5.1	40.1	5.6	29.7	46.0	14.4	5.6	46.1	15.6	22.9	44.4	16.3	50.0	41.7	20.6	191.5
	1958	..	1958	1959	1957	1956	1959	1956	1957	1958	1956	1959	1956	1957	1959	1958	1957	1959	1957	1956	1956
Jhalawar	32.8	-0.6	47.7	36.7	1.7	11.4	41.7	5.0	14.2	46.3	14.4	34.8	46.7	18.9	27.2	46.1	21.1	252.0	42.2	19.7	246.6
	1932	1935	1941	1953	1934	1942	1945	1943	1957	1958	1955	1933	1932	1956	1936	1945	1950	1945	1931	1958	1947
Udaipur	30.6	1.7	49.5	36.7	1.1	14.0	38.9	7.4	20.1	44.4	10.6	26.9	43.9	16.4	9.9	41.7	18.8	64.8	37.8	21.1	105.9
	1958	1954	1953	1953	1957	1948	1959	1957	1954	1958	1955	1953	1956	1957	1949	1958	1958	1945	1948	1954	1950
Erinpura (Jawai Dam)	30.8	4.1	36.8	36.1	3.4	2.5	40.0	9.4	16.8	45.6	14.4	6.1	44.7	21.9	15.0	43.6	20.6	32.0	38.6	22.3	47.5
	1958	1959	1957	1955	1957	1955	1959	1956	1957	1958	1955	1959	1958	1959	1959	1958	1957	1955	1958	1959	1958
Madhya Pradesh (West) Gwalior (P.B.O.)	31.7	-1.1	40.1	36.7	0.6	20.6	41.7	7.2	14.5	46.2	12.8	15.2	48.3	20.5	41.9	47.2	21.1	162.6	43.9	22.8	149.9
	1943	1954	1957	1949	1950	1954	1945	1945	1956	1958	1953	1943	1947	1959	1953	1945	1944	1952	1948	1942	1947
Sheopur Kalan	31.7	0.6	21.6	37.2	1.9	20.8	41.3	7.2	29.7	45.9	13.9	7.6	47.8	20.3	41.0	46.7	22.2	89.1	42.2	22.2	187.2
	1952	1954	1957	1953	1957	1954	1958	1956	1956	1958	1955	1952	1954	1959	1959	1954	1955	1955	1951	1953	1957
Guna	31.7	-2.2	33.2	36.1	-1.1	40.6	41.1	5.0	59.9	43.4	11.1	17.7	46.1	17.8	55.2	46.1	20.0	191.5	41.7	19.6	293.4
	1946	1934	1959	1953	1950	1942	1945	1945	1950	1958	1940	1959	1954	1937	1959	1945	1944	1945	1931	1958	1958
Rajgarh	31.3	2.8	10.7	35.7	2.2	2.0	40.6	8.9	19.3	46.3	14.4	1.3	46.6	20.7	27.4	45.2	22.8	61.0	41.2	19.7	153.7
	1959	1956	1956	1959	1957	1956	1959	1957	1957	1958	1956	1959	1958	1959	1956	1958	1957	1958	1957	1958	1956
Necmunch	32.8	-1.1	68.3	36.7	-0.6	47.7	41.7	4.4	50.0	44.6	8.9	31.5	46.7	13.9	49.3	46.1	15.6	172.7	42.2	14.4	152.4
	1898	1905	1891	1887	1886	1915	1892	1905	1923	1958	1905	1888	1912	1920	1883	1897	1885	1933	1901	1910	1943
Ratlam	31.7	5.0	18.0	37.8	5.6	8.1	41.1	9.4	19.8	45.2	15.0	10.2	43.9	21.1	21.6	42.2	21.0	98.8	37.6	20.0	132.8
	1952	1952	1953	1953	1951	1956	1952	1957	1954	1958	1955	1957	1956	1956	1956	1953	1958	1951	1958	1951	1954
Alirajpur	32.8	6.5	2.3	37.2	3.7	0.5	40.9	9.8	0	44.0	17.2	13.1	43.7	21.7	26.7	41.6	21.5	69.1	35.1	21.6	186.8
	1959	1959	1956	1956	1957	1956	1958	1957	..	1958	1956	1958	1959	1956	1956	1958	1957	1956	1958	1959	1958
Indore	32.2	-1.1	80.5	36.7	-2.8	32.0	41.1	5.0	19.3	44.6	7.8	51.1	45.6	16.7	99.1	45.0	18.9	127.0	38.3	18.9	293.4
	1938	1935	1920	1953	1929	1888	1892	1898	1944	1958	1905	1895	1916	1881	1886	1897	1958	1895	1931	1910	1913
Bhopal (Bairagarh)	32.2	0.6	34.3	36.1	1.7	15.5	40.0	7.8	35.1	44.2	12.2	13.5	45.6	19.4	72.6	43.9	19.5	120.9	40.6	19.0	218.2
	1934	1935	1948	1953	1950	1944	1945	1945	1936	1958	1935	1937	1947	1933	1956	1945	1957	1945	1931	1958	1939
Khandwa	35.6	1.7	49.5	38.9	0.6	48.3	43.3	6.1	27.4	46.7	11.1	26.2	47.2	17.2	71.1	45.6	18.7	153.2	40.0	18.9	240.5
	1932	1946	1920	1953	1929	1928	1892	1908	1881	1958	1905	1891	1947	1881	1956	1942	1957	1940	1900	1959	1927
Hoshangabad	32.2	3.3	40.1	37.8	6.1	36.6	41.1	10.6	41.9	45.2	16.1	48.3	46.1	20.0	35.8	45.6	21.1	178.8	41.1	18.9	238.8
	1950	1935	1919	1953	1950	1917	1953	1935	1957	1958	1951	1890	1954	1947	1893	1953	1946	1895	1931	1951	1898
Betul	30.7	2.8	10.9	37.2	1.1	3.6	38.9	8.8	34.5	42.6	15.0	23.1	43.3	19.2	23.1	42.2	15.0	73.7	35.6	19.3	129.8
	1958	1953	1957	1953	1950	1950	1953	1957	1957	1958	1955	1957	1954	1957	1957	1953	1949	1951	1959	1959	1954

X Highest Maximum Temperature.

N = Lowest Minimum Temperature.
* Observatory started from 2-4-1959.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-81 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Rajasthan (East) (cont'd.)																	
38.3	18.9	168.4	37.8	17.1	77.2	37.8	11.7	59.4	34.0	6.7	17.4	30.1	1.7	0.2	1952	1952	Jaipur. (Sanganer Aerodrome)
1955	1953	1959	1954	1957	1956	1952	1955	1956	1957	1956	1958	1959	1955	1958			
39.0	21.1	93.2	37.2	20.9	57.4	38.2	11.1	105.4	35.0	3.9	2.8	31.3	2.2	4.1	1955	1955	Dhoipur.
1957	1955	1958	1956	1957	1959	1957	1957	1955	1957	1956	1959	1957	1955	1958			Tonk*
40.0	20.6	164.6	40.6	16.1	156.2	38.9	7.8	119.4	35.0	2.8	42.4	31.1	0.6	56.6	1881	1881	Ajmer.
1883	1935	1928	1915	1950	1924	1951	1889	1956	1901	1926	1958	1890	1936	1913			
41.1	18.9	172.2	40.6	20.0	185.4	41.1	13.4	98.0	37.2	7.8	54.1	33.9	3.9	30.0	1901	1901	Kotah.
1911	1947	1955	1951	1931	1926	1930	1957	1930	1901	1926	1927	1941	1926	1927			
37.2	15.6	109.7	40.6	14.4	105.0	37.2	8.3	45.5	37.2	3.3	2.0	31.5	-1.1	1.0	1955	1955	Chambal.
1955	1957	1956	1956	1957	1958	1957	1955	1955	1957	1958	1958	1958	1955	1956			
37.8	18.3	184.7	38.9	17.0	125.2	40.0	10.6	76.2	35.6	5.6	66.0	33.3	2.2	44.2	1931	1931	Jhalawar.
1955	1955	1942	1951	1957	1935	1951	1934	1956	1941	1956	1933	1941	1945	1947			
35.5	18.9	105.7	37.8	15.6	183.9	37.2	9.9	41.9	35.0	4.9	38.1	31.7	0.6	5.3	1947	1947	Udaipur.
1957	1950	1957	1951	1950	1950	1951	1957	1956	1951	1958	1948	1954	1950	1956			
38.3	22.3	180.9	37.2	21.1	152.9	36.9	12.8	22.1	34.7	7.8	6.2	33.4	3.9	6.2	1955	1955	Erinpura. (Jawai Dam).
1957	1957	1957	1958	1955	1955	1957	1957	1957	1957	1958	1959	1959	1959	1958			
Madhya Pradesh (West)																	
38.3	21.1	108.5	37.2	18.3	159.0	39.4	8.9	150.6	35.6	3.9	11.7	31.1	0	31.7	1941	1941	Gwalior (P.B.O.)
1954	1955	1954	1951	1942	1945	1951	1952	1955	1941	1946	1946	1959	..	1952			
38.9	21.1	117.0	38.3	17.4	69.1	40.6	10.2	100.8	37.3	6.1	19.1	31.7	0.6	10.2	1951	1951	Sheopur Kalan.
1955	1953	1959	1951	1957	1954	1951	1957	1956	1957	1958	1951	1953	1954	1956			
36.7	19.4	181.6	36.7	16.7	298.5	38.3	8.3	63.5	34.7	2.8	64.5	31.7	-0.6	35.6	1931	1931	Guna.
1955	1952	1934	1932	1942	1947	1951	1957	1956	1959	1940	1946	1941	1950	1946			
34.9	20.6	142.2	35.6	15.0	116.8	37.0	9.4	36.6	34.6	4.4	0.1	32.8	0	57.1	1955	1955	Rajgarh.
1957	1956	1956	1955	1956	1955	1957	1955	1955	1957	1956	1959	1959	..	1956			
37.8	18.3	186.0	38.9	17.2	177.5	39.4	10.6	102.1	35.6	5.0	51.6	31.7	0.6	22.3	1881	1881	Neemuch.
1899	1913	1957	1951	1902	1947	1919	1990	1955	1901	1938	1934	1953	1929	1392			
38.7	20.0	153.4	37.8	16.1	255.3	38.3	12.8	162.3	34.4	9.4	15.7	32.2	6.1	4.3	1948	1948	Ratlam.
1959	1956	1957	1951	1954	1950	1951	1952	1955	1951	1956	1951	1954	1955	1950			
33.7	20.6	140.7	34.7	20.0	142.7	37.3	12.8	142.7	35.4	7.2	15.0	32.8	6.1	50.8	1955	1955	Alirajpur.
1958	1956	1957	1959	1956	1959	1957	1956	1955	1957	1956	1958	1959	1955	1956			
35.0	18.9	209.8	37.2	16.7	136.7	37.8	8.9	78.5	35.0	5.6	69.0	32.8	1.1	45.0	1881	1881	Indore.
1899	1952	1956	1899	1902	1933	1899	1890	1938	1925	1938	1958	1896	1936	1928			
35.0	19.4	188.5	36.1	17.2	233.2	37.8	11.7	123.7	33.3	6.1	68.3	32.8	3.3	31.7	1931	1931	Bhopal (Bairagarh).
1932	1956	1944	1951	1951	1947	1951	1943	1955	1951	1941	1936	1941	1936	1935			
39.4	19.4	203.2	40.6	17.8	218.6	40.6	9.4	146.6	37.2	6.1	84.8	34.4	2.8	95.8	1881	1881	Khandwa.
1951	1943	1957	1899	1942	1959	1899	1890	1924	1951	1949	1936	1896	1929	1886			
35.6	19.4	294.1	40.4	17.8	207.0	37.2	12.2	98.3	35.0	3.9	86.4	32.3	4.4	109.7	1931	1881	Hoshangabad.
1950	1943	1919	1959	1942	1950	1951	1952	1943	1951	1952	1912	1959	1938	1928			
32.2	18.9	127.8	32.2	17.4	142.4	33.9	8.3	92.7	32.2	5.6	90.7	30.6	3.3	21.6	1948	1948	Betul.
1950	1951	1953	1951	1957	1959	1952	1952	1951	1948	1956	1956	1952	1955	1950			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

.. - Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AN

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Madhya Pradesh (West)—(cont.)																					
Chhindwara	30.0	3.3	22.3	35.6	2.8	37.9	38.3	8.9	14.7	42.5	15.6	15.2	43.8	19.8	47.7	43.0	18.3	73.9	34.4	20.0	91.4
	1950	1951	1955	1953	1950	1950	1953	1957	1958	1958	1955	1957	1958	1959	1956	1958	1949	1956	1952	1959	1954
Seoni	32.8	2.8	49.5	37.2	3.3	70.1	40.6	6.1	42.2	43.9	11.7	41.9	44.4	15.0	74.2	45.0	17.8	279.4	37.8	17.8	276.1
	1882	1937	1943	1896	1911	1898	1899	1910	1936	1942	1905	1937	1954	1917	1918	1942	1928	1834	1931	1941	1929
Sagar	31.7	1.7	84.1	35.0	1.1	43.2	41.1	7.2	60.9	43.9	10.6	23.9	45.6	16.9	58.2	45.6	18.3	235.5	41.1	16.1	284.5
	1912	1934	1887	1953	1929	1951	1892	1898	1957	1896	1926	1937	1914	1959	1903	1897	1922	1890	1931	1904	1904
Nowgong	32.2	-1.7	46.5	36.7	-0.6	48.0	41.7	5.0	25.9	45.0	11.7	40.6	47.2	13.9	31.0	46.7	18.4	462.8	45.6	20.8	232.7
	1946	1935	1921	1934	1905	1946	1931	1945	1913	1948	1905	1909	1947	1932	1913	1954	1957	1897	1931	1958	1902
Madhya Pradesh (East)																					
Sutna	32.2	0.6	81.3	35.0	1.1	49.3	41.1	4.4	43.9	45.0	12.2	52.8	46.7	18.3	33.5	47.8	19.4	562.6	45.0	17.8	209.5
	1946	1933	1955	1956	1905	1936	1945	1949	1893	1896	1918	1946	1947	1933	1914	1954	1929	1882	1931	1929	1894
Sidhi	32.8	1.8	22.9	30.9	4.4	3.6	39.7	9.6	0	48.8	13.1	0	46.6	21.1	5.6	43.8	24.7	41.0	40.2	21.1	97.4
	1959	1959	1959	1959	1959	1959	1959	1954	..	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959
Umari	34.4	0	61.2	36.7	0.6	55.6	40.0	5.0	43.4	44.4	12.8	31.5	45.6	18.3	27.7	45.6	20.0	209.8	39.6	20.6	179.8
	1943	..	1939	1954	1950	1950	1955	1945	1941	1942	1951	1937	1954	1937	1957	1945	1948	1946	1958	1939	1959
Jabalpur	32.8	1.1	63.7	37.2	0	55.6	41.1	3.3	39.6	45.0	10.6	50.3	46.7	17.2	73.7	46.1	19.4	185.2	41.7	20.6	342.9
	1946	1946	1919	1953	..	1898	1892	1898	1927	1942	1905	1935	1954	1937	1885	1889	1922	1883	1902	1930	1915
Mandla	30.6	0.6	38.3	35.6	2.7	26.7	39.4	7.8	29.7	43.2	11.1	19.3	45.0	16.8	20.1	44.4	21.1	43.4	38.9	20.8	210.4
	1954	1954	1953	1953	1957	1958	1955	1957	1951	1958	1956	1951	1954	1957	1956	1958	1956	1955	1958	1959	1959
Pendra	30.1	3.3	45.0	34.4	1.7	42.9	39.4	8.9	70.9	42.8	13.3	67.8	43.9	17.8	55.9	43.9	16.7	242.1	37.2	18.3	166.6
	1958	1937	1933	1953	1929	1917	1955	1906	1956	1942	1930	1926	1928	1933	1925	1942	1915	1946	1954	1942	1953
Ambikapur	29.3	1.1	20.1	33.3	3.9	48.0	38.3	8.2	21.8	41.1	12.8	21.3	43.3	18.9	51.1	43.3	21.0	51.3	37.1	20.6	109.2
	1958	1954	1954	1954	1956	1956	1955	1957	1952	1956	1955	1951	1956	1951	1956	1955	1957	1956	1958	1951	1954
Champa	32.2	7.8	64.0	36.7	8.3	25.4	41.7	13.2	88.1	45.0	18.3	13.2	47.2	20.5	37.6	47.2	21.7	96.5	39.4	21.7	142.0
	1950	1954	1945	1953	1950	1956	1955	1957	1951	1952	1957	1945	1948	1957	1956	1953	1949	1956	1954	1946	1952
Raigarh	32.8	7.8	39.4	37.2	9.4	26.6	42.2	13.9	61.0	45.0	19.2	29.2	46.7	22.8	40.0	47.2	22.8	139.7	38.4	22.2	261.0
	1955	1951	1953	1955	1956	1953	1955	1957	1951	1956	1957	1951	1956	1956	1956	1953	1956	1955	1953	1955	1958
Raipur	35.0	5.0	55.4	37.8	5.0	57.4	43.3	8.3	55.9	46.1	15.0	38.3	47.2	14.4	80.3	47.2	16.1	202.7	38.9	20.0	213.1
	1955	1908	1921	1899	1893	1917	1892	1898	1906	1942	1905	1909	1935	1904	1904	1931	1884	1919	1931	1884	1884
Kanker	32.8	3.9	53.3	35.0	3.9	52.8	40.0	10.0	48.3	43.3	15.6	44.2	44.4	17.8	45.7	46.1	17.8	245.9	35.0	18.9	289.1
	1931	1946	1943	1953	1934	1950	1942	1948	1957	1942	1944	1951	1953	1945	1932	1931	1936	1940	1954	1940	1951
Jagdapur (P.B.O.)	33.1	4.4	40.6	36.7	5.0	120.4	40.6	9.4	45.7	43.3	13.9	54.4	46.1	17.2	64.3	44.4	17.2	133.1	35.6	18.3	180.9
	1957	1913	1926	1953	1943	1919	1953	1948	1927	1941	1943	1939	1912	1917	1925	1953	1913	1940	1920	1958	1934
Gujarat																					
Deesa	35.6	-2.2	28.2	40.6	-0.6	31.5	46.1	5.6	24.1	46.3	10.0	24.1	50.0	17.8	68.6	48.3	20.6	102.4	43.9	19.4	252.2
	1932	1935	1940	1953	1929	1941	1892	1905	1911	1958	1905	1923	1912	1920	1920	1897	1943	1956	1902	1887	1908
Radhanpur	31.2	6.3	0	34.7	5.6	0	42.3	13.3	0	43.4	16.8	0	45.3	22.3	0	42.8	23.1	4.0	37.9	19.5	89.5
	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	1959	1959	1959	1959
Idar	31.9	7.8	5.8	34.8	9.7	0	41.9	10.2	0	46.6	15.7	21.1	44.3	20.7	1.3	43.3	20.6	48.0	37.6	20.4	307.0
	1958	1957	1957	1959	1957	..	1959	1957	..	1958	1958	1959	1958	1957	1957	1958	1953	1957	1958	1958	1958
Ahmedabad	36.1	3.3	30.7	40.6	2.2	26.4	43.9	9.4	12.2	46.2	12.8	21.6	47.8	19.4	46.2	47.2	19.4	130.8	42.2	21.1	414.8
	1912	1954	1948	1953	1920	1917	1908	1908	1940	1958	1955	1947	1916	1920	1917	1897	1920	1937	1902	1908	1927

X=Highest Maximum Temperature

N=Lowest Minimum Temperature

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Madhya Pradesh (West)-(contd.)																	
33.3	18.2	101.3	31.9	16.3	151.1	34.1	10.6	75.2	31.1	5.6	120.7	30.7	3.3	10.9	1949	1949	Chhindwara.
1950	1957	1955	1957	1957	1955	1957	1952	1955	1957	1956	1956	1959	1955	1956			
35.6	17.2	281.9	35.0	16.1	208.0	36.1	10.6	121.5	33.9	6.7	116.8	31.7	3.3	68.3	1881	1881	Seoni.
1879	1917	1913	1911	1942	1947	1899	1910	1916	1899	1939	1946	1899	1936	1909			
35.6	19.4	274.3	38.3	16.7	159.3	37.8	11.7	198.2	34.4	6.1	105.2	31.7	4.4	73.9	1881	1881	Sagar.
1899	1956	1908	1881	1926	1947	1899	1890	1958	1909	1926	1902	1896	1926	1886			
38.3	20.6	247.4	39.4	17.2	169.2	39.4	8.4	127.0	35.6	3.9	75.2	32.8	0	84.6	1881	1881	Nowgong.
1945	1957	1903	1929	1944	1906	1930	1957	1926	1929	1941	1910	1929	..	1886			
Madhya Pradesh (East)																	
36.1	21.1	299.7	37.2	16.7	178.1	38.3	10.0	152.4	35.5	5.0	84.6	32.2	1.1	47.7	1881	1881	Sutna.
1932	1954	1919	1932	1912	1951	1896	1890	1882	1957	1941	1956	1948	1937	1929			
33.8	18.9	82.0	37.2	21.1	60.4	33.8	16.0	32.4	32.6	7.2	0	29.9	2.5	0	1959	1959	Sidhi
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
35.0	20.0	302.0	35.6	17.8	126.5	35.2	9.4	83.8	32.9	3.9	79.5	31.7	0.6	41.1	1932	1932	Umaria.
1945	1951	1953	1958	1944	1933	1957	1933	1957	1957	1937	1946	1941	1937	1946			
35.0	18.3	320.5	35.0	16.7	251.7	36.7	7.8	121.9	33.9	3.9	93.5	32.8	0.6	68.1	1881	1881	Jabalpur.
1954	1929	1923	1941	1899	1926	1941	1881	1916	1956	1889	1956	1941	1902	1885			
33.6	19.9	157.8	33.9	17.4	148.1	35.0	7.8	121.4	33.2	3.3	65.8	30.0	1.1	28.5	1950	1950	Mandla.
1958	1957	1957	1951	1957	1955	1951	1952	1951	1957	1950	1956	1959	1955	1956			
32.8	18.3	262.1	32.8	17.8	150.4	33.9	11.7	91.4	31.7	6.1	58.4	30.0	3.9	37.1	1906	1906	Pendra.
1925	1910	1953	1938	1935	1926	1920	1933	1915	1909	1926	1924	1941	1936	1906			
34.2	20.7	102.2	33.9	19.4	84.8	33.3	9.4	37.0	29.6	4.4	6.6	28.3	1.7	9.4	1950	1950	Ambikapur.
1958	1958	1959	1959	1951	1954	1957	1954	1959	1957	1952	1956	1950	1955	1956			
35.1	22.2	171.5	35.0	21.1	96.0	36.2	15.5	63.5	33.3	10.0	41.1	31.1	3.3	17.5	1945	1945	Champa.
1957	1957	1953	1954	1950	1955	1957	1957	1955	1946	1950	1946	1954	1955	1954			
35.1	22.2	169.4	35.7	21.1	135.6	36.2	15.0	74.2	33.3	10.0	4.6	31.8	6.4	6.1	1950	1950	Raigarh.
1956	1953	1952	1957	1950	1959	1957	1957	1959	1951	1950	1956	1957	1959	1954			
36.7	20.0	370.3	37.2	18.3	148.6	37.8	13.9	148.6	35.6	8.3	70.4	32.2	3.9	52.1	1881	1881	Raipur.
1883	1939	1910	1899	1902	1905	1899	1933	1900	1935	1883	1930	1941	1902	1909			
33.9	20.0	195.3	33.5	18.9	257.3	34.5	11.7	112.8	32.8	7.2	58.4	31.1	3.9	17.8	1931	1931	Kanker.
1947	1939	1937	1959	1950	1936	1957	1954	1938	1946	1939	1950	1943	1934	1940			
33.9	16.7	203.2	35.0	17.8	163.8	34.4	11.1	136.9	33.3	5.6	102.9	32.2	3.9	38.3	1911	1911	Jagdalpur (P.B.O.).
1922	1920	1931	1913	1950	1911	1913	1941	1938	1946	1912	1924	1946	1945	1952			
Gujarat																	
41.1	21.1	366.1	42.2	17.2	349.5	42.8	10.6	92.7	37.6	5.0	28.7	36.1	1.7	14.0	1881	1881	Deesa.
1902	1948	1907	1951	1912	1893	1925	1889	1917	1957	1938	1896	1935	1903	1927			
33.4	20.5	42.3	..	..	207.0	37.0	19.0	31.1	35.4	13.0	0	32.5	5.5	0	1959	1959	Radhanpur.
1959	1959	1959	..	..	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
34.7	21.3	91.2	35.8	18.6	132.2	38.6	15.7	39.2	36.7	14.3	1.3	32.6	9.2	2.0	1957	1957	Idar.
1957	1958	1957	1957	1957	1959	1957	1957	1959	1957	1959	1957	1957	1959	1957			
38.9	21.7	150.6	41.7	21.6	257.8	42.8	14.4	52.8	38.9	10.0	53.3	35.6	6.1	14.0	1896	1896	Ahmedabad.
1911	1929	1906	1951	1958	1950	1920	1955	1917	1901	1956	1947	1899	1954	1927			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) ANI

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Gujarat—(contd.)																						
Dhohad	33.9	0	11.9	39.4	2.2	20.6	41.7	9.4	22.3	45.4	15.0	15.2	45.0	20.0	122.7	44.4	21.1	90.4	38.3	20.6	230.3	
	1949	..	1953	1953	1950	1942	1945	1945	1944	1958	1935	1946	1932	1933	1938	1945	1957	1940	1939	1947	1958	
Baroda	35.6	-1.1	15.2	41.7	1.7	31.7	43.3	6.7	10.4	45.9	11.7	1.3	46.7	18.9	71.4	45.6	21.5	129.8	40.0	21.1	183.4	
	1952	1935	1953	1953	1950	1933	1959	1936	1954	1958	1955	1959	1955	1939	1947	1945	1957	1958	1939	1943	1941	
Baroda (Aerodrome)	35.6	5.0	14.0	40.6	3.9	3.1	42.4	10.9	2.8	45.2	14.4	0.6	46.1	21.6	40.9	43.3	21.2	87.7	38.3	22.2	111.5	
	1952	1954	1953	1953	1950	1954	1959	1957	1954	1958	1955	1959	1955	1957	1956	1953	1957	1958	1949	1952	1956	
Broach	36.9	5.6	7.9	42.8	6.1	2.5	44.2	11.5	14.0	45.6	16.1	0.3	47.8	21.2	80.5	44.4	22.3	109.2	37.8	22.7	195.1	
	1957	1954	1953	1953	1957	1954	1959	1957	1954	1956	1955	1954	1955	1957	1956	1953	1957	1954	1951	1959	1954	
Surat	38.3	4.4	43.7	41.7	5.6	38.1	43.9	10.6	8.1	45.6	15.0	97.8	45.6	19.4	48.8	45.6	21.7	260.1	38.9	20.6	459.2	
	1952	1929	1920	1953	1929	1898	1945	1898	1954	1952	1903	1947	1956	1888	1917	1901	1916	1922	1902	1889	1941	
Saurashtra and Kutch																						
Naliya	29.3	4.4	3.3	31.5	5.8	0	42.2	11.9	0	40.9	16.3	0	44.6	21.1	0	38.2	24.0	7.3	35.9	22.1	262.9	
	1959	1959	1959	1959	1959	..	1959	1959	..	1959	1959	..	1959	1969	..	1959	1959	1959	1959	1959	1959	
Bhuj (Aerodrome)	32.4	3.9	2.7	37.2	4.3	0	41.3	11.1	4.3	44.8	13.9	0	45.6	21.7	29.2	42.0	24.3	48.8	39.6	20.6	467.9	
	1958	1956	1959	1955	1957	..	1959	1957	1958	1958	1955	..	1955	1957	1955	1958	1959	1959	1958	1954	1959	
Bhutakia Bhimasar* Kandla	31.7	9.8	5.1	33.9	7.7	0	40.4	14.3	3.8	42.2	18.3	0	43.3	22.1	3.1	38.3	23.9	105.9	37.2	22.4	147.4	
	1958	1957	1958	1956	1957	..	1959	1957	1955	1956	1955	..	1956	1957	1957	1959	1959	1956	1958	1957	1956	
Mandvi	29.4	7.8	4.1	35.6	8.9	0	38.1	13.2	1.5	41.1	15.0	0	42.6	21.1	0	35.0	24.8	20.8	36.4	21.1	68.0	
	1958	1956	1959	1955	1957	..	1959	1957	1955	1958	1956	..	1959	1957	..	1955	1959	1956	1958	1956	1959	
Dwarka	34.0	6.1	20.3	35.6	8.3	64.0	38.3	7.8	42.4	41.1	17.2	24.4	42.7	20.0	7.6	37.8	22.8	230.9	36.4	18.3	273.8	
	1957	1929	1919	1920	1901	1906	1958	1905	1911	1932	1903	1915	1959	1909	1933	1951	1936	1956	1958	1952	1933	
Porbander	34.1	9.4	8.1	38.9	8.7	6.3	40.2	13.2	0	42.8	18.9	2.0	45.6	22.7	0.5	35.0	23.9	129.8	33.9	22.0	231.6	
	1957	1953	1954	1955	1957	1954	1958	1957	..	1956	1955	1957	1959	1957	1956	1959	1953	1957	1958	1959	1958	
Porbander (Aero- drome) † Jamnagar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	33.9	1.7	19.8	37.2	2.2	29.5	40.0	8.3	38.6	42.8	12.8	19.3	44.4	16.7	92.7	42.2	17.2	337.8	39.9	19.4	335.0	
	1933	1935	1929	1926	1929	1906	1946	1905	1904	1901	1903	1915	1903	1918	1933	1951	1917	1920	1958	1950	1929	
Rajkot (Aerodrome)	36.1	-0.6	13.2	40.0	1.1	21.3	43.9	6.1	21.6	44.4	10.0	29.2	47.8	16.1	117.3	45.0	20.0	218.9	40.6	19.4	375.2	
	1932	1935	1935	1953	1893	1888	1892	1905	1911	1949	1903	1947	1919	1907	1917	1897	1913	1893	1900	1941	1950	
Surendranagar	33.7	7.2	2.0	38.3	7.4	0	42.8	12.9	0	45.1	13.9	24.3	46.7	22.8	11.9	44.9	22.8	61.2	39.4	22.8	82.6	
	1958	1954	1957	1955	1957	..	1959	1957	..	1958	1955	1959	1955	1956	1957	1958	1955	1955	1954	1956	1959	
Bhavnagar	35.0	0.6	43.7	39.4	2.8	16.5	43.3	8.3	35.8	45.0	12.8	306.6	46.7	19.4	87.4	45.0	20.6	219.7	40.0	21.7	195.6	
	1926	1929	1920	1953	1929	1909	1910	1905	1951	1900	1903	1947	1912	1917	1933	1901	1903	1913	1949	1910	1957	
Bhavnagar (Aero- drome)	33.9	6.1	7.6	37.8	6.7	2.0	41.1	13.1	9.9	43.3	14.4	0	45.0	22.2	5.3	43.3	20.0	61.7	38.3	23.3	195.5	
	1952	1954	1953	1953	1957	1956	1953	1957	1954	1958	1955	..	1955	1957	1956	1953	1954	1957	1952	1956	1957	
Mahuva	33.1	7.8	2.5	41.1	10.6	0	42.8	12.5	11.4	45.0	13.9	1.5	43.9	20.0	0.5	40.6	22.8	179.6	35.6	22.2	167.9	
	1957	1954	1953	1953	1956	..	1956	1957	1954	1954	1955	1956	1956	1957	1956	1953	1955	1959	1955	1956	1957	
Keshod	..	..	0	..	..	0	42.1	14.0	0	43.3	19.4	0.2	45.1	22.2	0.8	37.7	22.3	37.4	32.8	23.1	178.0
	..	..	..	..	..	..	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959
Veraval	34.4	4.4	12.9	38.3	4.4	16.8	42.8	9.4	19.1	42.8	13.9	124.7	44.2	18.9	123.2	37.2	20.0	108.0	33.9	21.1	289.6	
	1933	1905	1926	1953	1893	1923	1945	1892	1911	1954	1903	1947	1959	1909	1917	1954	1951	1957	1902	1892	1945	
Konkan																						
Dahanu	34.4	8.3	8.9	37.8	8.9	3.6	38.9	12.8	1.3	40.6	19.3	59.9	38.3	20.6	15.7	38.3	15.0	306.1	35.0	21.1	431.0	
	1957	1956	1948	1949	1950	1954	1946	1945	1958	1955	1957	1947	1944	1947	1956	1951	1948	1953	1947	1947	1956	

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

*Observatory started on 18-11-1959.

†Observatory Started from 16-6-1959.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-81 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rain fall	
36.1	21.1	295.4	38.9	17.8	265.4	40.0	11.7	177.0	36.1	8.9	65.4	34.4	5.0	7.4	1931	1931	Gujarat—(contd.) Dhohad
1932	1956	1933	1951	1950	1945	1951	1935	1954	1953	1938	1958	1953	1936	1931			
37.2	22.8	238.0	41.1	18.9	372.1	41.7	11.7	138.4	38.3	7.2	48.3	36.1	3.3	3.6	1933	1933	Baroda.
1947	1953	1956	1951	1938	1945	1951	1955	1940	1951	1938	1934	1941	1937	1933			
35.6	21.7	277.1	41.1	21.1	148.9	41.1	13.3	71.1	37.8	10.6	16.8	35.0	6.7	0	1949	1949	Baroda (Aerodrome).
1949	1956	1956	1951	1957	1958	1951	1954	1954	1951	1956	1957	1952	1954	..			
35.6	22.8	154.9	41.7	21.1	304.8	41.7	14.4	85.0	38.9	11.7	10.4	37.2	8.0	0.5	1951	1951	Broach.
1954	1952	1956	1951	1957	1954	1952	1954	1959	1957	1953	1958	1952	1959	1954			
37.2	21.1	288.9	41.1	20.6	339.4	41.1	14.4	257.1	39.4	10.6	148.3	38.9	6.7	42.2	1881	1881	Surat.
1932	1887	1933	1951	1884	1945	1952	1893	1894	1951	1881	1946	1953	1903	1933			
Saurashtra and Kutch																	
31.3	24.7	17.6	30.9	20.3	240.1	35.7	15.2	1.0	33.7	9.9	6.4	32.7	3.3	0	1959	1959	Naliya
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..			
37.3	22.7	70.4	39.4	19.4	78.0	37.8	13.7	95.4	37.2	9.4	2.4	33.9	4.4	3.6	1954	1954	Bhuj (Aerodrome).
1954	1956	1956	1958	1954	1958	1955	1957	1959	1957	1956	1959	1954	1955	1956			Bhutakai Bhimsar*
35.8	23.3	185.9	38.3	22.6	64.8	37.8	13.9	22.6	37.2	15.0	3.8	32.8	9.4	0.8	1955	1951	Kandla.
1958	1956	1956	1957	1957	1953	1955	1955	1959	1957	1956	1957	1958	1955	1957			
34.4	22.8	175.3	35.6	22.6	55.0	38.3	17.3	32.8	34.4	13.9	3.0	31.7	8.2	15.0	1954	1954	Mandvi.
1957	1956	1956	1955	1959	1958	1955	1957	1956	1957	1956	1959	1958	1959	1958			
32.8	21.7	302.3	39.4	22.2	135.9	40.0	16.7	138.4	37.2	12.2	355.1	33.9	8.3	28.5	1901	1901	Dwarka.
1954	1908	1933	1929	1909	1921	1951	1949	1917	1901	1938	1951	1932	1903	1937			
32.9	22.8	89.7	36.1	22.8	94.7	39.4	17.2	213.6	38.2	13.3	32.2	36.7	10.0	4.6	1952	1952	Porbander.
1958	1956	1954	1955	1954	1956	1953	1952	1959	1957	1952	1958	1953	1954	1954			
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			Porbander (Aerodrome).†
37.8	20.6	248.9	41.7	16.1	133.3	40.6	14.4	37.3	37.2	8.9	48.5	34.4	3.9	42.7	1901	1901	Jamnagar.
1954	1924	1954	1951	1923	1947	1952	1954	1915	1901	1938	1948	1955	1930	1929			
37.8	20.6	233.2	40.6	16.7	184.7	41.7	12.2	105.6	38.3	7.2	99.8	36.1	-2.8	22.9	1881	1881	Rajkot (Aerodrome).
1947	1913	1900	1911	1912	1945	1925	1949	1939	1929	1917	1888	1886	1903	1929			
36.9	21.7	198.1	33.9	21.9	112.0	38.9	16.1	40.8	37.2	11.1	7.6	34.4	5.0	1.3	1953	1953	Surendranagar.
1958	1956	1953	1957	1957	1958	1957	1954	1958	1953	1956	1957	1953	1955	1957			
38.9	21.7	125.0	41.1	20.6	242.3	41.1	13.3	233.9	38.3	6.1	105.7	35.0	5.0	25.9	1891	1891	Bhavangar.
1902	1903	1946	1951	1935	1947	1951	1916	1931	1948	1938	1936	1941	1908	1909			
36.8	22.2	117.0	40.6	21.1	102.9	41.7	17.2	141.0	36.7	12.2	4.8	34.6	9.4	2.5	1951	1951	Bhavnagar (Aerodrome).
1958	1958	1959	1951	1952	1954	1951	1954	1959	1951	1956	1959	1957	1955	1957			
34.4	21.1	77.2	36.7	19.9	80.0	38.9	15.6	76.0	36.2	13.3	12.2	35.0	9.4	17.3	1952	1952	Mahuva.
1954	1952	1957	1957	1957	1954	1952	1954	1959	1957	1953	1958	1952	1954	1954			
30.9	23.6	10.0	33.9	22.1	42.8	36.1	18.4	39.0	34.4	14.3	0	34.3	8.8	0.2	1959	1959	Keshod.
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959			
33.3	22.8	270.0	36.7	20.6	277.4	40.0	13.3	173.7	37.8	10.0	89.9	35.6	7.2	25.7	1891	1891	Veraval.
1932	1956	1933	1955	1946	1926	1952	1949	1917	1951	1950	1896	1953	1950	1902			
Konkan																	
31.7	20.6	335.0	33.9	21.1	481.0	36.1	17.2	173.4	36.7	15.6	256.5	35.6	11.1	0.5	1944	1944	Dahanu.
1947	1951	1945	1944	1954	1958	1953	1954	1959	1947	1955	1948	1952	1945	1954			

..=Information not available.

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Konkan—(contd.)																					
Bombay (Colaba)	35.0	11.7	49.3	38.3	11.7	41.7	39.7	16.7	34.3	40.6	20.0	37.3	36.2	22.8	126.2	37.2	21.1	408.9	35.6	21.7	304.8
	1952	1935	1926	1949	1929	1917	1958	1905	1918	1955	1905	1947	1959	1951	1893	1901	1936	1886	1902	1945	1923
Bombay (Santacruz Aerodrome)	35.6	10.0	0.8	39.4	10.0	8.9	41.7	14.1	0.8	42.2	18.3	1.5	38.8	20.6	54.4	36.7	22.2	305.6	32.6	21.8	310.6
	1952	1953	1858	1953	1950	1954	1956	1957	1951	1952	1951	1951	1959	1951	1951	1951	1954	1953	1957	1957	1953
Alibag	35.3	9.4	9.7	37.8	11.7	4.1	39.4	15.6	2.8	40.0	18.9	8.4	36.7	21.7	103.1	34.4	18.3	225.0	31.7	20.0	295.9
	1958	1934	1948	1943	1950	1940	1945	1945	1940	1955	1937	1947	1958	1943	1938	1932	1945	1940	1951	1949	1953
Harnai	33.4	15.6	8.6	34.0	13.9	1.0	37.2	16.1	0	36.1	17.8	31.5	37.2	20.0	157.0	34.4	16.1	254.8	32.2	17.8	242.6
	1958	1945	1945	1958	1950	1948	1946	1945	..	1949	1950	1955	1955	1950	1956	1953	1945	1951	1948	1950	1948
Ratnagiri	36.7	12.2	23.4	38.3	13.3	32.0	38.9	16.1	31.7	36.1	16.1	25.9	37.8	21.7	91.7	35.0	19.4	309.9	32.8	20.6	304.3
	1912	1935	1888	1920	1901	1917	1922	1910	1900	1938	1905	1937	1883	1913	1893	1913	1939	1953	1900	1919	1900
Devgad	34.4	15.6	12.2	35.0	17.2	1.5	37.2	18.7	12.2	37.2	20.6	23.6	35.0	22.5	119.4	37.2	13.3	276.0	31.7	21.1	210.3
	1952	1945	1947	1952	1950	1958	1948	1957	1947	1956	1953	1947	1954	1958	1949	1948	1945	1958	1957	1954	1948
Vengurla	35.6	14.4	0.3	38.9	12.8	2.8	37.4	15.0	0.3	40.0	20.6	17.0	36.1	22.2	107.7	33.9	20.0	333.3	31.2	21.7	237.7
	1955	1953	1959	1952	1950	1958	1958	1950	1954	1956	1955	1954	1949	1958	1955	1958	1956	1958	1957	1956	1951
Maharashtra																					
Nandurbar	35.9	8.9	43.9	40.6	13.2	0	43.3	16.1	2.5	45.6	18.9	41.2	46.1	21.7	76.2	42.8	22.2	80.0	36.9	21.1	167.5
	1958	1954	1955	1955	1959	..	1956	1955	1954	1958	1955	1958	1955	1956	1956	1953	1956	1953	1958	1952	1958
Jalgaon	35.6	1.7	29.6	40.6	3.9	21.8	43.9	9.4	23.9	47.2	15.6	15.7	47.8	22.2	35.1	46.1	21.7	115.1	39.4	21.1	110.7
	1939	1945	1958	1953	1943	1941	1953	1948	1938	1958	1944	1951	1947	1956	1956	1953	1955	1956	1951	1938	1941
Malegaon	35.0	0.6	38.1	39.4	-0.6	43.4	45.6	5.6	14.7	44.6	9.4	27.0	46.7	16.7	104.4	44.4	17.8	111.0	37.8	18.3	158.5
	1932	1935	1888	1953	1929	1936	1889	1898	1915	1958	1905	1958	1916	1881	1903	1915	1932	1914	1920	1953	1896
Deolali	32.8	5.0	1.8	37.8	-0.6	1.5	40.0	7.2	7.4	42.8	11.1	24.6	42.2	17.8	57.7	40.0	20.0	49.5	32.8	20.0	157.0
	1950	1954	1958	1953	1950	1954	1953	1957	1955	1958	1955	1958	1955	1955	1951	1955	1952	1957	1951	1951	1952
Aurangabad	37.2	3.9	51.6	37.8	2.2	36.3	42.2	8.9	23.4	45.0	10.0	24.6	45.6	17.2	53.3	43.9	17.2	182.1	37.8	18.3	139.7
	1924	1945	1920	1953	1911	1894	1892	1898	1915	1896	1908	1937	1905	1924	1918	1923	1901	1953	1897	1904	1916
Aurangabad (Chikalthana Aerodrome)	32.2	3.9	3.8	37.2	5.0	3.1	40.0	7.1	20.3	43.6	16.1	7.9	42.6	20.0	30.0	42.2	20.0	94.2	35.0	20.0	84.1
	1955	1954	1959	1954	1957	1952	1955	1957	1954	1958	1956	1954	1958	1952	1956	1953	1954	1955	1952	1956	1953
Khandala	..	..	19.1	..	..	15.2	..	..	1.3	..	..	58.0	..	..	62.2	..	..	267.2	..	..	516.4
	..	..	1940	..	..	1937	..	..	1951	..	..	1959	..	..	1951	..	..	1953	..	..	1958
Ahmednagar	36.1	2.2	51.6	38.9	2.8	42.9	40.6	7.8	88.4	43.1	10.6	71.9	43.3	16.1	119.9	43.3	18.3	177.3	37.2	17.8	174.0
	1897	1945	1941	1897	1911	1894	1934	1892	1938	1958	1926	1937	1919	1917	1915	1920	1907	1931	1955	1944	1911
Parbhani	33.3	4.4	43.4	38.3	6.1	34.8	41.7	11.6	46.5	45.0	17.2	36.8	45.6	21.1	56.6	45.6	20.0	87.9	37.8	20.4	171.5
	1955	1945	1926	1953	1949	1928	1953	1957	1927	1958	1955	1939	1954	1956	1916	1953	1951	1940	1950	1957	1923
Poona	35.0	1.7	22.3	38.9	3.9	16.3	42.8	7.2	35.1	43.3	10.6	51.1	43.3	13.9	82.5	41.7	17.2	97.0	35.6	18.9	130.4
	1938	1935	1948	1953	1934	1892	1892	1908	1954	1897	1903	1896	1889	1888	1927	1897	1920	1906	1915	1920	1958
Poona (Lohagaon Aerodrom)	32.8	8.3	0	37.8	8.6	0	40.0	11.1	42.9	41.7	12.2	26.2	41.7	15.0	59.1	39.5	18.9	83.8	32.8	20.0	103.6
	1952	1954	..	1953	1958	..	1953	1955	1954	1958	1955	1959	1952	1955	1957	1958	1953	1954	1952	1959	1958
Baramati	33.3	8.1	0	37.4	8.6	0	40.5	11.2	6.3	43.2	13.3	22.2	42.8	19.4	35.6	41.9	20.0	70.0	33.4	20.0	37.1
	1955	1958	..	1959	1957	..	1959	1957	1958	1958	1955	1955	1958	1956	1959	1958	1956	1955	1958	1956	1956
Jeur	33.9	5.7	0.5	38.3	5.0	18.5	41.1	10.4	4.8	43.7	15.0	23.6	43.6	20.6	49.0	43.3	18.9	81.5	39.9	17.9	88.1
	1950	1957	1955	1953	1950	1952	1953	1957	1957	1958	1955	1957	1958	1955	1956	1953	1951	1953	1959	1959	1956

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
Konkan—(contd.)																	
32.2	21.7	287.0	35.0	20.0	548.1	36.6	22.6	146.8	36.2	17.8	122.7	35.1	12.8	24.4	1881	1881	Bombay (Colaba).
1948	1943	1881	1929	1947	1930	1957	1954	1917	1957	1881	1927	1959	1929	1884			
31.1	19.4	256.0	35.6	21.7	132.8	37.0	16.7	117.1	36.3	13.3	23.1	35.2	10.6	9.1	1949	1949	Bombay. (Santacruz Aerodrome).
1954	1950	1954	1951	1953	1954	1957	1952	1955	1957	1950	1957	1958	1949	1954			
32.8	21.1	204.0	32.8	21.1	396.2	37.2	18.3	115.8	36.7	15.6	106.7	34.4	13.9	12.5	1931	1931	Alibag.
1932	1949	1954	1951	1947	1949	1936	1954	1938	1941	1950	1948	1957	1949	1933			
32.2	20.6	176.0	31.7	21.1	308.6	35.0	19.4	176.5	35.6	18.3	72.6	33.9	18.9	15.2	1944	1944	Harnai.
1947	1950	1947	1951	1947	1949	1950	1946	1947	1951	1946	1946	1944	1949	1954			
31.1	21.1	204.2	34.4	20.6	236.7	37.2	17.8	221.0	37.2	15.6	243.8	36.1	14.4	33.8	1881	1881	Ratnagiri.
1939	1931	1885	1896	1898	1938	1888	1903	1938	1918	1955	1912	1896	1954	1931			
31.7	19.4	130.8	32.2	21.1	235.2	35.0	19.4	141.0	36.1	17.2	67.1	34.4	16.1	16.5	1945	1945	Devgad.
1948	1945	1948	1953	1945	1948	1946	1952	1951	1951	1952	1946	1953	1949	1954			
30.6	21.7	177.6	32.8	21.3	125.5	35.6	17.8	122.4	35.6	14.4	37.0	35.1	10.6	1.5	1949	1949	Vengurla.
1950	1956	1958	1952	1957	1955	1953	1950	1951	1951	1950	1959	1959	1954	1958			
Maharashtra.																	
38.9	21.1	82.0	36.1	20.6	124.5	38.9	16.2	163.0	37.2	11.7	20.0	35.0	10.6	4.1	1952	1952	Nandurbar.
1954	1956	1959	1955	1952	1954	1952	1958	1959	1957	1956	1959	1953	1954	1956			
37.2	20.0	119.1	38.9	15.6	111.8	38.3	10.0	98.8	36.5	5.6	59.9	35.0	1.7	22.3	1937	1937	Jalgaon.
1947	1942	1942	1951	1942	1937	1951	1952	1943	1957	1950	1946	1953	1937	1947			
37.2	16.1	115.3	38.3	16.1	132.1	40.0	10.6	109.7	36.7	5.6	105.2	35.0	3.3	39.4	1881	1881	Malegaon.
1899	1899	1897	1899	1942	1894	1899	1933	1935	1908	1910	1912	1896	1929	1884			
33.3	19.4	143.3	33.3	17.8	86.9	35.7	9.4	54.6	32.8	6.7	62.5	32.8	5.0	40.0	1950	1950	Deolali.
1950	1956	1956	1955	1954	1954	1957	1954	1956	1957	1955	1958	1953	1954	1954			
36.1	17.2	134.6	36.7	16.1	245.1	37.8	12.2	68.8	35.6	7.2	157.5	34.4	5.0	92.7	1896	1891	Aurangabad.
1950	1935	1903	1896	1901	1891	1911	1903	1901	1896	1910	1946	1896	1902	1942			
33.3	18.3	69.3	33.8	17.8	78.8	35.2	8.3	43.4	33.4	5.6	44.4	32.8	3.9	9.1	1952	1952	Aurangabad (Chikalhana Aerodrome)
1954	1956	1956	1957	1952	1958	1957	1952	1959	1957	1956	1958	1953	1954	1954			
..	..	475.0	..	..	308.4	..	..	263.7	..	..	188.7	..	..	16.0	..	1933	Khandala.
..	..	1956	..	..	1942	..	..	1938	..	..	1948	..	..	1942			
36.7	16.1	147.3	36.7	14.4	148.8	37.2	10.6	89.1	35.6	5.6	124.7	33.3	3.3	69.1	1891	1891	Ahmednagar.
1899	1913	1957	1912	1896	1902	1899	1914	1943	1898	1892	1948	1953	1926	1942			
36.7	20.0	139.7	35.6	18.5	217.2	36.7	10.0	168.9	33.9	8.3	79.0	32.8	6.7	32.3	1944	1916	Parbhani.
1950	1953	1934	1951	1959	1923	1946	1954	1955	1953	1956	1936	1953	1945	1937			
35.0	17.2	108.7	36.1	16.1	132.3	37.8	11.1	149.1	36.1	7.2	96.8	35.0	4.4	41.1	1881	1881	Poona.
1950	1920	1957	1951	1901	1938	1899	1910	1892	1896	1939	1934	1896	1940	1942			
32.0	17.2	103.6	37.2	15.6	55.1	36.1	12.8	106.9	33.3	9.4	76.2	33.3	7.8	8.1	1950	1950	Poona. (Lohagaon Aerodrome).
1958	1956	1956	1951	1952	1955	1951	1950	1951	1953	1955	1951	1954	1954	1954			
34.5	17.8	106.2	35.6	17.8	105.4	36.2	12.8	75.4	33.1	9.4	46.2	32.2	7.8	14.0	1954	1954	Baramati.
1958	1956	1956	1955	1957	1957	1957	1954	1957	1958	1955	1956	1954	1959	1954			
37.2	17.4	94.2	36.1	15.3	85.5	36.3	12.2	58.1	35.0	8.9	63.6	33.1	5.3	43.2	1950	1950	Jeur.
1950	1957	1958	1951	1959	1959	1957	1952	1959	1959	1955	1959	1958	1959	1954			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

.. = Information not available

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Maharashtra—Contd																					
Sholapur	36.7	4.4	48.8	39.4	6.1	34.3	43.9	12.2	39.6	44.4	13.9	48.0	45.6	16.1	56.1	44.4	17.2	143.8	38.9	18.3	160.3
	1897	1945	1943	1886	1911	1928	1892	1886	1893	1889	1905	1907	1939	1885	1952	1953	1922	1982	1912	1914	1907
Miraj	33.9	5.0	46.5	37.2	6.7	8.6	40.6	11.2	21.6	42.2	15.0	115.1	42.2	18.9	108.2	42.2	19.4	83.2	35.0	17.2	61.0
	1950	1945	1941	1953	1944	1941	1949	1957	1958	1942	1944	1937	1940	1937	1938	1934	1956	1959	1932	1945	1943
Kholapur	33.6	8.9	14.7	36.9	10.4	4.3	40.4	12.8	48.5	41.7	15.6	34.5	41.2	18.3	66.0	39.4	18.9	101.1	31.7	18.9	151.6
	1959	1946	1947	1959	1959	1952	1959	1957	1948	1956	1955	1946	1959	1946	1947	1953	1956	1959	1952	1955	1953
Vidarbha																					
Buldhana	32.8	10.0	30.7	36.7	4.4	1.3	38.9	14.8	26.2	42.2	18.2	31.0	42.2	20.0	30.2	41.7	19.4	89.0	34.4	18.9	122.9
	1956	1953	1955	1953	1950	1952	1953	1957	1955	1958	1959	1959	1954	1956	1956	1953	1955	1959	1952	1949	1953
Akola	36.2	3.9	49.0	40.0	2.2	42.2	44.4	5.6	38.6	46.1	11.1	58.7	47.8	18.3	44.7	47.2	20.0	188.0	40.6	20.6	188.5
	1958	1937	1922	1953	1887	1907	1892	1908	1957	1942	1905	1937	1947	1947	1943	1923	1916	1955	1900	1941	1894
Amravati	35.0	6.1	59.2	38.9	5.0	51.6	43.9	8.9	51.6	46.1	12.8	66.3	46.7	18.3	47.2	46.7	19.4	155.2	39.4	18.9	230.1
	1889	1934	1911	1953	1957	1928	1892	1898	1957	1898	1905	1937	1954	1917	1887	1923	1916	1927	1931	1890	1888
Yeotmal	33.3	9.4	22.0	37.8	7.2	31.2	41.7	14.4	29.7	44.7	17.8	146.7	46.1	20.0	48.3	45.6	20.4	104.4	38.3	20.0	123.0
	1950	1954	1959	1953	1950	1950	1953	1957	1957	1958	1955	1952	1954	1955	1956	1953	1959	1953	1950	1953	1959
Nagpur	35.0	3.9	50.3	38.9	5.0	51.6	45.0	8.3	45.0	46.1	13.9	59.4	47.8	19.4	58.4	47.2	20.0	315.0	40.6	19.4	219.2
	1900	1937	1948	1887	1950	1942	1892	1898	1881	1942	1905	1937	1954	1917	1909	1931	1919	1911	1897	1942	1898
Gondia	31.7	6.7	42.4	37.2	6.7	48.3	41.7	11.7	34.3	43.5	18.3	25.9	46.1	22.2	13.2	45.6	20.6	216.7	37.2	21.3	164.2
	1950	1951	1948	1951	1950	1947	1953	1952	1951	1958	1957	1953	1954	1951	1956	1953	1959	1955	1958	1958	1959
Brahmapuri	31.8	7.5	30.6	36.2	7.8	18.0	40.5	13.5	47.5	44.5	18.6	17.0	46.1	19.7	43.7	46.2	20.5	53.1	36.2	18.7	160.0
	1958	1958	1959	1958	1957	1957	1959	1957	1957	1958	1957	1957	1959	1957	1957	1958	1957	1957	1958	1957	1959
Chanda	35.6	2.8	39.4	39.4	3.9	94.2	44.4	7.2	68.8	46.1	11.7	65.3	48.3	18.9	44.5	47.2	20.0	182.1	40.6	17.8	191.3
	1900	1899	1924	1951	1905	1898	1892	1998	1893	1942	1905	1914	1912	1919	1903	1931	1919	1887	1897	1954	1887
Sironcha	33.3	7.8	7.1	37.8	10.6	13.5	41.7	13.9	95.0	44.7	21.1	32.4	46.7	21.1	26.4	46.7	22.2	119.0	38.9	21.1	165.3
	1955	1951	1959	1953	1957	1958	1959	1952	1951	1959	1958	1958	1954	1955	1955	1953	1955	1959	1951	1957	1956
Coastal Andhra Pradesh																					
Nellore	35.6	15.0	94.2	39.4	16.1	116.8	43.9	17.2	59.2	43.6	20.6	73.7	46.7	21.7	185.9	46.7	21.1	83.8	45.6	22.2	95.3
	1936	1946	1906	1927	1891	1928	1892	1910	1944	1895	1934	1900	1892	1947	1952	1894	1912	1903	1951	1943	1950
Ongole	33.9	14.4	27.9	38.3	14.4	47.8	43.3	18.3	52.3	44.4	20.6	16.8	46.1	16.1	102.6	46.1	23.3	71.1	40.0	21.2	80.3
	1946	1946	1953	1954	1945	1959	1953	1945	1951	1956	1950	1956	1956	1949	1949	1953	1957	1946	1952	1957	1956
Rentachintala	35.0	10.6	3.8	39.4	12.8	21.3	44.4	15.6	28.5	46.1	18.3	69.1	47.2	18.3	67.3	47.2	21.7	101.6	40.6	21.7	87.6
	1958	1946	1948	1959	1949	1956	1953	1952	1950	1941	1937	1948	1948	1955	1940	1953	1947	1947	1952	1956	1953
Gannavaram	34.4	15.6	8.4	37.8	16.1	11.4	43.3	17.2	46.7	44.4	22.4	77.5	46.7	21.1	43.4	46.7	20.6	93.2	39.4	21.5	99.6
	1952	1955	1956	1954	1956	1959	1953	1952	1957	1956	1959	1953	1956	1955	1955	1953	1951	1956	1952	1957	1956
Masulipatam	33.3	13.9	76.2	37.2	14.4	96.5	42.2	16.7	150.4	44.4	18.3	101.3	47.8	19.4	82.5	46.1	20.0	133.3	41.7	19.4	115.6
	1946	1945	1908	1927	1889	1901	1892	1906	1926	1892	1926	1942	1906	1893	1904	1924	1947	1915	1897	1893	1935
Nidadavolu	33.2	14.4	4.0	36.6	15.0	5.8	37.2	19.7	5.3	42.8	22.8	21.8	46.7	21.6	57.7	46.2	22.3	59.9	34.8	21.9	86.8
	1958	1956	1959	1959	1956	1956	1959	1959	1957	1956	1957	1956	1956	1959	1957	1958	1959	1956	1959	1959	1958
Kakinada	32.8	14.4	78.2	37.8	15.6	45.0	38.9	17.2	71.6	42.8	18.9	61.0	46.7	21.1	109.7	47.2	21.7	501.4	41.7	21.1	127.0
	1950	1946	1921	1896	1918	1893	1934	1906	1905	1947	1942	1937	1934	1917	1914	1923	1940	1941	1897	1938	1947
Visakhapatnam	33.1	12.8	132.1	36.7	13.3	64.5	38.3	14.4	64.5	38.7	18.3	73.9	43.3	20.0	145.3	43.9	21.1	166.1	38.3	21.7	145.0
	1958	1956	1908	1922	1956	1901	1956	1952	1926	1957	1930	1925	1953	1904	1955	1906	1953	1929	1899	1904	1951

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
37.8	15.0	191.0	37.2	17.5	169.9	38.3	12.8	125.5	36.1	7.8	127.8	34.4	6.7	97.5	1881	1881	Maharashtra—contd.
1899	1956	1940	1899	1959	1895	1896	1882	1957	1915	1881	1896	1896	1945	1886			Sholapur.
34.4	17.8	150.9	35.6	15.6	93.7	36.1	12.2	101.3	34.4	8.3	114.1	34.4	7.2	19.8	1831	1831	Miraj.
1941	1949	1932	1951	1935	1946	1942	1937	1956	1958	1950	1955	1941	1954	1933			
32.2	18.9	116.3	35.0	17.8	74.4	34.7	13.9	67.6	33.3	11.1	89.1	33.2	8.9	17.5	1946	1946	Kolhapur.
1950	1956	1956	1951	1957	1956	1957	1952	1953	1951	1955	1955	1959	1956	1947			
35.0	16.6	129.8	32.8	17.9	170.4	33.9	14.4	50.0	32.2	11.7	38.1	31.1	11.1	19.6	1948	1948	Vidarbha
1950	1959	1959	1951	1959	1958	1951	1957	1951	1957	1949	1948	1957	1951	1950			Buldhana.
37.8	18.3	224.5	40.0	17.2	365.4	40.0	10.0	110.5	36.1	5.6	112.3	36.7	3.9	65.0	1881	1881	Akola.
1950	1944	1900	1899	1904	1959	1899	1889	1887	1899	1912	1936	1896	1883	1885			
36.7	15.6	158.1	38.3	17.2	234.9	39.4	12.8	90.2	35.6	8.9	78.0	33.9	8.3	55.6	1881	1881	Amravati.
1902	1944	1944	1899	1893	1933	1899	1889	1940	1899	1884	1931	1913	1937	1885			
35.6	19.4	165.6	34.4	20.0	210.3	35.4	13.9	85.9	32.8	10.0	8.1	32.0	10.0	13.7	1949	1949	Yeotmal.
1950	1955	1952	1951	1957	1959	1957	1952	1952	1957	1950	1956	1959	1950	1950			
37.8	18.3	200.7	38.9	18.3	182.6	38.3	11.7	164.6	35.6	6.7	81.5	33.9	5.6	45.7	1881	1881	Nagpur.
1899	1939	1875	1899	1904	1183	1899	1952	1936	1899	1912	1946	1941	1936	1884			
34.4	18.3	149.1	34.4	20.6	95.0	35.3	13.3	106.7	33.9	8.9	54.6	31.7	7.2	13.2	1946	1946	Gondia.
1947	1953	1947	1951	1952	1956	1957	1952	1949	1957	1950	1948	1959	1955	1956			
33.5	19.6	96.0	34.6	19.4	175.4	35.6	16.3	38.0	33.1	12.2	54.0	37.2	8.6	0	1957	1957	Brahmapuri.
1958	1957	1959	1957	1957	1959	1957	1957	1959	1957	1959	1958	1957	1959	..			
37.2	18.3	179.6	37.2	18.3	249.4	37.8	11.7	164.1	36.1	7.2	70.9	33.9	3.9	54.6	1881	1881	Chanda.
1954	1954	1951	1899	1904	1959	1899	1882	1936	1950	1950	1881	1933	1883	1884			
36.1	18.9	247.4	35.2	21.7	100.9	36.9	14.4	115.8	33.9	10.6	5.8	32.2	9.9	2.6	1950	1950	Sironcha.
1950	1954	1953	1957	1951	1959	1957	1954	1957	1957	1950	1958	1959	1959	1959			
40.6	21.7	75.2	41.1	21.7	133.6	39.4	18.9	444.0	36.7	16.7	356.9	35.0	14.4	189.2	1891	1891	Coastal Andhra Pradesh
1899	1912	1923	1899	1945	1909	1900	1895	1950	1915	1939	1936	1909	1895	1902			Nellore.
38.3	21.7	66.0	38.9	21.7	232.7	37.8	18.3	184.9	35.2	16.7	258.3	33.9	15.1	87.4	1845	1845	Ongole.
1950	1956	1949	1952	1949	1949	1951	1947	1953	1959	1955	1946	1951	1959	1952			
39.4	21.7	103.0	38.3	21.3	154.9	38.1	16.7	153.2	36.1	12.2	71.6	34.4	10.0	53.3	1936	1936	Rentachintala.
1950	1958	1958	1946	1958	1954	1957	1950	1945	1951	1950	1956	1951	1936	1952			
36.7	22.0	83.8	36.7	18.2	143.3	36.1	18.3	134.1	35.0	16.7	46.0	33.9	15.0	10.7	1951	1950	Gannavaram.
1952	1959	1955	1957	1957	1954	1951	1952	1956	1951	1955	1956	1951	1953	1952			
38.3	21.7	135.6	37.8	20.6	116.6	37.2	18.9	502.4	34.4	13.9	355.6	22.2	14.4	159.3	1881	1881	Masulipatam.
1920	1952	1886	1888	1895	1954	1888	1895	1949	1891	1934	1938	1951	1937	1947			
33.9	22.4	66.5	34.9	22.2	40.9	36.5	20.9	146.3	33.2	15.5	47.5	31.7	12.9	3.2	1955	1955	Nidadavolu.
1956	1957	1957	1957	1956	1956	1957	1959	1955	1958	1959	1957	1956	1959	1959			
37.8	21.7	146.1	37.2	21.7	285.7	37.2	17.2	281.9	33.9	15.6	276.3	32.2	13.9	130.3	1896	1981	Kakinada.
1902	1955	1937	1920	1958	1956	1907	1949	1936	1951	1910	1923	1899	1902	1882			
37.8	20.1	121.4	37.8	22.2	148.6	36.8	17.8	293.3	33.9	15.0	270.5	32.8	12.8	191.3	1896	1901	Vasakhapatnam.
1841	1907	1957	1939	1953	1914	1957	1952	1958	1942	1929	1923	1951	1959	1909			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July				
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R		
Coastal Andhra Pradesh—(contd.)																							
Calingapatam .	33.9	12.2	25.4	37.8	12.8	83.1	38.9	16.1	84.3	41.7	18.3	63.5	43.9	20.6	307.3	43.9	22.2	18.2	38.9	21.7	205.7		
	1911	1937	1908	1922	1918	1923	1946	1952	1940	1947	1930	1956	1916	1951	1914	1923	1949	1935	1911	1919	1956		
Telangana																							
Ramagundam .	33.9	9.4	10.9	38.9	9.4	8.1	42.8	14.4	21.1	44.1	20.0	30.5	47.2	21.1	65.5	47.2	21.7	140.7	40.0	21.1	119.9		
	1957	1953	1953	1951	1949	1958	1953	1952	1951	1959	1956	1956	1948	1949	1957	1953	1959	1953	1950	1950	1956		
Nizamabad .	35.6	5.0	59.7	38.3	6.1	72.4	43.3	11.1	43.9	44.4	12.8	76.2	47.2	18.3	71.1	46.1	16.7	246.4	40.0	14.4	298.0		
	1928	1899	1943	1954	1911	1928	1928	1892	1950	1942	1905	1937	1923	1917	1922	1931	1902	1914	1904	1931	1958		
Mahbubnagar .	32.2	12.7	0.3	36.6	11.7	7.9	40.0	15.6	43.4	42.2	19.2	65.5	43.3	21.1	79.3	43.3	20.6	59.7	36.8	19.4	104.4		
	1956	1957	1958	1959	1956	1958	1953	1952	1958	1956	1958	1957	1956	1955	1952	1953	1955	1954	1957	1952	1956		
Hyderabad (Begum- pet Aerodrome.)	35.0	6.1	93.2	37.2	8.9	42.9	42.2	13.2	103.1	43.3	16.1	60.7	44.4	19.4	65.0	43.9	17.8	122.7	37.2	19.4	109.2		
	1929	1946	1922	1951	1911	1912	1892	1957	1928	1941	1917	1937	1935	1917	1905	1931	1922	1914	1918	1931	1916		
Hakimpet .	30.6	12.2	0	35.3	13.9	13.2	38.3	16.1	31.2	40.6	18.4	25.9	43.3	18.9	32.5	42.2	18.9	106.9	33.3	19.4	84.3		
	1954	1955	..	1959	1956	1958	1959	1958	1958	1956	1957	1956	1956	1957	1955	1953	1954	1955	1953	1959	1957		
Hanamkonda .	35.0	8.9	58.4	37.8	10.6	45.7	42.2	15.0	71.1	44.4	17.8	83.6	46.7	17.2	75.7	46.1	21.1	197.6	38.9	17.8	227.8		
	1921	1945	1924	1954	1911	1936	1953	1906	1928	1942	1957	1937	1928	1917	1940	1953	1953	1914	1920	1911	1903		
Bhadrachallam .	34.5	11.1	11.9	38.3	11.7	2.0	42.8	15.6	25.4	43.9	18.3	30.0	46.7	21.7	35.6	46.8	20.6	78.7	39.4	21.7	73.9		
	1958	1957	1958	1954	1956	1952	1953	1952	1954	1956	1956	1956	1956	1955	1956	1958	1954	1956	1952	1954	1956		
Khammameth .	35.0	9.4	11.4	38.9	11.7	39.6	43.3	16.1	47.0	45.0	18.9	63.0	47.2	21.1	46.5	46.7	21.7	92.7	39.4	20.5	299.7		
	1950	1946	1941	1954	1943	1946	1953	1952	1944	1941	1945	1945	1947	1948	1948	1953	1950	1953	1952	1959	1954		
Royalaseema																							
Arogyavaram .	31.6	11.7	19.3	35.0	11.7	22.6	37.2	12.8	18.0	38.3	18.3	50.0	38.9	15.6	80.5	37.2	18.9	69.6	34.4	16.7	100.1		
	1958	1956	1947	1959	1947	1950	1953	1955	1957	1956	1957	1956	1947	1946	1951	1953	1957	1958	1946	1952	1954		
Cuddapah .	37.8	11.7	84.8	40.6	14.4	51.6	43.3	17.8	131.3	45.0	17.8	116.6	46.1	19.4	115.1	45.0	17.8	152.4	40.6	17.2	103.9		
	1897	1912	1896	1897	1948	1901	1903	1935	1915	1906	1907	1898	1906	1896	1940	1923	1944	1957	1897	1943	1894		
Anantapur .	34.1	12.2	5.1	37.9	13.3	10.9	40.6	15.0	25.9	42.2	18.3	67.1	42.2	18.9	76.5	41.7	20.6	59.9	36.7	21.1	43.2		
	1958	1958	1947	1959	1947	1947	1953	1951	1951	1956	1950	1956	1953	1951	1955	1953	1953	1957	1952	1956	1953		
Kurnool .	36.1	8.3	41.1	38.9	11.1	66.8	41.7	12.8	50.0	44.4	16.1	42.2	45.6	19.4	165.6	44.4	20.0	81.3	38.3	20.6	132.1		
	1897	1891	1915	1899	1943	1928	1925	1921	1893	1896	1905	1957	1921	1955	1952	1898	1935	1901	1915	1903	1893		
Madras State																							
Palayamcottai .	33.3	18.5	54.6	36.2	20.0	53.1	41.7	21.1	83.3	41.7	22.2	74.9	42.2	22.8	83.6	42.2	21.7	10.7	38.3	22.5	34.3		
	1957	1957	1951	1957	1956	1950	1953	1959	1954	1956	1955	1947	1953	1956	1959	1953	1955	1957	1954	1959	1949		
Tuticorin .	33.3	18.9	21.6	31.1	18.3	41.2	33.3	21.1	62.2	38.3	22.2	39.8	41.1	21.7	41.3	38.9	21.7	11.4	37.9	23.3	21.1		
	1955	1956	1956	1958	1956	1959	1958	1956	1957	1956	1955	1959	1956	1955	1958	1958	1956	1956	1958	1954	1954		
Pamban .	33.3	20.0	127.5	33.3	19.4	88.9	35.0	20.6	63.0	37.2	20.6	81.3	36.7	21.1	102.6	37.2	20.6	55.6	35.0	21.7	130.8		
	1902	1956	1902	1906	1939	1902	1953	1959	1938	1930	1949	1954	1923	1891	1930	1930	1897	1940	1921	1957	1916		
Tondi*																							
Mathurai .	34.4	15.6	152.4	38.3	16.1	188.0	41.7	17.2	100.3	41.7	19.4	166.4	41.7	17.8	99.6	42.2	17.8	105.4	40.6	19.4	124.5		
	1936	1907	1921	1906	1884	1929	1882	1909	1947	1935	1909	1891	1956	1920	1882	1935	1897	1927	1884	1891	1893		
Mathurai (Aerodrome).	33.3	18.9	0.3	36.1	17.8	6.8	38.0	18.6	0	38.5	22.6	15.7	39.9	24.6	13.0	38.2	23.6	8.0	38.1	22.8	3.3		
	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959		
Nagapattinam .	31.7	16.1	245.1	35.6	15.6	125.0	40.0	16.7	126.5	41.7	20.0	151.6	42.8	20.6	164.1	41.7	20.6	79.3	41.7	21.7	113.0		
	1899	1912	1923	1898	1884	1938	1953	1894	1923	1908	1894	1931	1898	1901	1930	1884	1882	1935	1898	1936	1916		
Tiruchirapalli .	35.6	14.4	114.8	40.0	13.9	137.9	42.2	15.6	80.8	42.8	18.3	160.5	43.3	19.4	183.1	43.9	20.0	73.4	41.1	21.7	94.7		
	1925	1884	1909	1906	1884	1891	1892	1896	1906	1896	1937	1889	1896	1955	1930	1888	1911	1894	1921	1951	1916		

*Observatory started from 15-6-1959.

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
36.7	22.2	192.5	36.7	22.2	310.6	35.6	16.7	155.5	33.9	13.3	280.4	31.7	12.2	221.7	1911	1906	Coastal Andhra Pradesh—(contd.) Calingapatam.
1923	1912	1912	1920	1930	1911	1950	1952	1921	1914	1926	1923	1951	1937	1909			
36.7	21.7	89.4	37.3	21.4	106.0	38.4	15.6	84.6	35.2	11.1	65.3	33.9	8.5	3.1	1947	1947	Telangana Ramagundam.
1949	1959	1953	1958	1959	1459	1957	1954	1947	1959	1952	1949	1956	1959	1952			
37.8	17.2	157.7	37.2	17.2	251.5	38.9	11.7	196.9	35.6	7.2	80.0	35.0	4.4	49.8	1891	1891	Nizamabad
1899	1901	1944	1920	1903	1929	1951	1921	1939	1926	1929	1936	1920	1897	1918			
34.4	20.0	69.3	34.4	19.4	79.0	35.1	16.1	68.6	32.7	12.8	32.5	31.7	12.2	1.3	1952	1952	Mahbubnagar.
1953	1956	1957	1952	1954	1955	1957	1952	1952	1957	1955	1958	1953	1956	1956			
36.1	19.4	190.5	36.1	17.8	153.2	36.7	13.3	117.1	33.9	7.8	95.5	33.3	7.2	44.5	1891	1896	Hyderabad (Begumpet Aerodrome.)
1950	1955	1954	1927	1942	1908	1896	1954	1903	1909	1939	1927	1930	1945	1918			
32.8	19.4	141.2	35.6	17.8	121.7	31.7	15.0	67.3	30.4	12.8	28.7	31.2	12.7	8.4	1952	1952	Hakimpet.
1954	1958	1955	1956	1954	1954	1954	1954	1957	1959	1955	1956	1957	1959	1954			
37.2	19.4	190.5	38.3	19.4	304.8	37.8	15.0	136.4	34.4	9.4	92.7	33.9	8.3	42.4	1901	1901	Hanamkonda.
1920	1905	1924	1920	1904	1908	1920	1952	1957	1920	1904	1916	1920	1902	1929			
35.6	21.1	119.0	36.6	22.1	58.7	37.6	15.6	68.6	34.1	12.2	44.5	32.8	10.0	40.4	1952	1952	Bhadrachallam.
1952	1952	1959	1959	1957	1952	1957	1952	1953	1957	1953	1956	1958	1956	1952			
36.1	21.1	107.2	37.2	20.6	152.4	37.4	16.7	130.8	33.9	11.7	86.4	33.3	10.0	17.8	1941	1941	Khammameth.
1950	1947	1950	1957	1942	1947	1957	1952	1941	1951	1941	1946	1951	1945	1947			
33.9	18.1	61.4	33.9	16.1	88.7	32.8	15.0	157.7	31.1	12.2	51.8	29.4	11.7	72.4	1945	1945	Royalaseema Arogyavaram.
1951	1958	1958	1952	1949	1956	1948	1947	1954	1947	1950	1946	1951	1951	1946			
40.0	19.4	176.0	39.4	19.4	173.5	38.9	16.7	270.4	36.1	13.9	104.7	35.6	11.7	85.1	1891	1881	Cuddapah.
1899	1921	1910	1907	1920	1906	1922	1943	1958	1927	1939	1943	1930	1945	1883			
36.7	21.2	77.5	36.1	19.4	108.0	35.0	15.6	78.5	35.0	12.8	99.3	32.2	12.2	22.6	1946	1946	Anantapur.
1949	1957	1949	1957	1954	1959	1950	1950	1946	1959	1950	1948	1959	1951	1952			
37.8	20.6	121.9	37.8	19.4	200.1	38.3	13.9	146.3	36.1	10.0	80.5	34.4	6.7	71.1	1891	1886	Kurnool.
1899	1929	1955	1899	1892	1888	1898	1950	1916	1896	1950	1903	1929	1902	1906			
38.9	22.4	57.0	40.0	22.8	40.6	38.3	21.6	71.8	36.4	21.1	93.5	35.6	20.0	88.9	1950	1945	Madras State Palayamcottai.
1953	1959	1958	1952	1954	1946	1955	1959	1959	1959	1955	1953	1952	1956	1946			
37.8	21.2	14.7	37.9	23.9	12.2	37.6	21.7	167.4	34.4	19.7	134.6	31.7	19.4	188.2	1954	1954	Tuticorin.
1957	1959	1956	1958	1955	1955	1959	1957	1957	1955	1959	1956	1955	1955	1955			
34.4	22.2	73.9	35.0	20.6	108.5	35.0	21.1	133.6	33.3	21.6	137.7	33.9	18.9	218.7	1891	1891	Pamban.
1945	1954	1937	1940	1930	1901	1940	1891	1932	1944	1957	1896	1906	1953	1955			
40.0	20.6	112.3	39.4	20.0	154.2	38.3	18.9	128.8	36.1	17.2	169.7	35.0	16.7	165.6	1881	1881	Tondi * Mathurai.
1891	1912	1910	1928	1908	1946	1934	1911	1909	1948	1909	1921	1951	1920	1955	..	..
38.7	22.7	43.0	37.2	23.4	51.6	37.3	22.4	50.4	31.9	21.3	76.3	30.9	18.3	16.2	1959	1959	Mathurai (Aerodrome)
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959			
40.6	20.6	125.7	37.8	20.6	78.7	37.2	20.6	396.2	35.0	16.7	365.5	33.9	16.7	366.8	1881	1881	Nagapattinam
1898	1913	1900	1907	1897	1921	1908	1891	1930	1948	1951	1918	1909	1886	1931			
40.6	20.6	110.0	40.6	20.6	84.3	38.9	18.9	319.0	36.7	16.7	298.2	35.6	14.4	135.6	1881	1881	Tiruchirapalli.
1888	1935	1944	1929	1908	1897	1906	1891	1930	1923	1884	1939	1926	1883	1931			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July				
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R		
Madras State — (cont.)																							
Coimbatore	35.0	11.7	141.5	36.7	12.8	64.8	39.3	15.6	83.8	40.0	17.8	54.9	39.4	18.3	85.6	38.3	18.3	132.6	35.6	16.7	103.6		
	1887	1912	1900	1899	1910	1922	1959	1930	1915	1906	1899	1954	1952	1893	1930	1895	1893	1941	1898	1911	1924		
Coimbatore (Peelamedu Aerodrome)	35.9	12.2	14.2	37.3	14.4	49.0	38.7	15.6	17.0	39.1	18.3	111.0	39.4	15.6	69.3	35.7	18.3	23.7	33.5	16.1	39.1		
	1957	1949	1954	1959	1953	1950	1959	1949	1951	1959	1949	1958	1952	1949	1957	1959	1949	1959	1958	1949	1949		
Salem	37.2	12.8	65.8	39.4	11.1	65.8	41.7	14.4	80.8	42.8	18.3	95.5	42.8	18.3	103.6	41.7	20.0	115.6	40.6	18.9	125.5		
	1925	1907	1943	1926	1907	1893	1892	1934	1884	1908	1887	1929	1931	1893	1930	1912	1885	1902	1923	1887	1952		
Kallakurichi	34.3	15.0	29.7	37.7	15.6	52.8	41.7	17.2	51.3	41.7	20.3	38.4	42.8	20.6	165.9	41.4	21.7	66.3	40.0	21.7	108.7		
	1959	1950	1956	1959	1950	1950	1953	1951	1950	1956	1959	1959	1956	1955	1957	1958	1956	1956	1952	1951	1955		
Cuddalore	31.7	13.3	130.3	36.1	14.4	119.4	38.9	16.1	83.1	42.2	19.4	120.4	43.3	21.1	572.0	42.8	21.1	82.5	40.6	18.9	100.8		
	1951	1894	1920	1898	1918	1930	1953	1898	1933	1908	1939	1939	1953	1950	1943	1905	1898	1921	1895	1911	1949		
Tirupattur	33.3	15.6	0	37.2	15.6	20.3	38.8	14.4	0	39.9	20.0	1.6	40.5	21.1	2.6	38.3	21.7	26.0	36.1	20.5	2.0		
	1959	1959	..	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959		
Vellore	33.9	11.7	69.1	37.8	12.8	67.3	40.6	14.4	49.8	43.9	17.8	83.1	44.4	19.4	214.4	42.8	20.6	94.2	40.6	20.6	125.2		
	1936	1946	1922	1945	1922	1906	1953	1934	1915	1908	1950	1951	1906	1902	1943	1935	1922	1938	1902	1910	1910		
Tamparam (Aerodrome)	..	18.8	0	..	19.4	2.8	..	20.0	0	..	23.2	7.2	..	23.8	12.1	..	22.8	24.6	..	23.9	16.0		
	..	1959	..	..	1959	1959	..	1959	..	..	1959	1959	..	1959	1959	..	1959	1859	..	1959	1959		
Madras	32.8	13.9	212.9	36.7	15.0	123.2	40.6	16.7	64.5	42.8	20.0	96.3	45.0	21.1	214.9	43.3	20.6	59.2	41.1	21.5	116.3		
	1894	1905	1915	1927	1934	1929	1953	1908	1925	1908	1939	1945	1910	1886	1943	1948	1909	1931	1915	1959	1910		
Madras (Nungambakkam).	30.8	16.1	62.7	35.0	16.7	27.9	40.0	18.3	2.8	41.1	21.1	100.3	42.2	21.1	244.3	42.2	22.7	30.7	39.4	22.2	68.3		
	1958	1950	1955	1950	1951	1955	1953	1954	1950	1956	1950	1951	1953	1952	1952	1953	1957	1956	1951	1954	1954		
Coastal Mysore																							
Karwar	36.1	14.1	0.8	36.6	15.6	0	36.1	17.7	16.8	38.9	21.0	28.7	34.4	22.4	173.7	32.7	20.6	199.4	31.0	21.1	216.4		
	1954	1957	1958	1957	1953	..	1954	1957	1954	1956	1957	1954	1958	1958	1955	1958	1958	1953	1959	1953	1959		
Honavar	36.1	15.6	18.5	37.2	15.6	1.5	37.8	18.8	19.8	35.0	20.6	62.0	35.0	21.1	238.5	33.9	21.1	292.6	32.2	21.1	270.0		
	1946	1946	1943	1943	1947	1947	1948	1958	1954	1956	1951	1956	1941	1950	1955	1948	1954	1946	1949	1956	1959		
Mangalore	36.1	16.7	40.6	37.8	16.7	36.1	37.3	18.3	82.8	35.6	20.0	117.1	36.7	18.9	360.9	34.4	20.0	252.0	35.6	20.6	268.2		
	1957	1911	1943	1920	1911	1917	1958	1911	1946	1921	1954	1939	1921	1911	1909	1923	1920	1897	1959	1931	1900		
Mangalore (Bajpe Aerodrome).	36.6	17.3	0	36.4	19.7	0	37.7	20.1	0	35.0	21.8	43.2	34.6	20.6	76.5	33.9	20.8	251.2	30.2	21.2	231.2		
	1957	1958	..	1959	1959	..	1958	1957	..	1958	1959	1959	1957	1959	1957	1958	1958	1959	1958	1959	1959		
Mysore (North)																							
Bidar	33.9	3.9	51.3	37.2	9.4	29.2	41.7	12.8	36.3	42.2	12.2	110.5	43.3	6.7	86.9	42.8	10.0	84.9	36.1	11.1	245.9		
	1925	1901	1906	1926	1950	1928	1910	1925	1938	1946	1918	1907	1931	1918	1943	1953	1918	1943	1924	1900	1955		
Gulbarga	36.1	6.7	42.4	38.3	11.1	57.1	42.8	12.8	72.6	43.9	13.3	79.3	45.0	18.3	124.7	45.0	12.8	144.8	37.2	17.2	108.5		
	1897	1937	1922	1903	1911	1929	1892	1910	1938	1923	1902	1907	1912	1892	1952	1923	1910	1928	1920	1920	1897		
Bijapur	39.4	7.2	89.1	41.1	8.9	23.6	41.1	13.3	39.9	42.2	16.1	66.0	42.8	17.8	90.2	42.2	17.2	51.1	36.7	16.1	102.1		
	1948	1945	1922	1943	1930	1928	1910	1910	1938	1931	1905	1933	1951	1940	1956	1923	1903	1957	1901	1902	1953		
Belgaum (C.T.O.)	32.3	9.9	0	36.1	10.8	40.9	38.2	10.4	33.5	39.4	12.8	69.1	38.6	17.9	129.5	33.0	17.7	132.3	27.2	17.8	162.6		
	1959	1957	..	1959	1959	1956	1959	1957	1956	1956	1955	1956	1959	1959	1955	1959	1958	1955	1955	1955	1958		
Belgaum (Sambre Aerodrome)	32.8	10.6	0	36.0	10.6	15.5	38.3	9.4	14.0	40.0	14.4	30.2	39.4	17.2	63.7	38.3	18.3	94.2	30.0	18.3	112.0		
	1956	1956	..	1957	1954	1956	1953	1957	1958	1956	1955	1954	1953	1955	1955	1953	1956	1955	1953	1956	1958		
Gadag	34.4	11.1	21.1	37.2	11.1	16.8	40.0	15.0	61.7	41.1	17.2	53.3	41.7	18.9	81.8	40.6	19.4	68.8	34.4	18.9	54.4		
	1958	1951	1935	1959	1950	1937	1953	1940	1948	1941	1935	1957	1939	1952	1943	1953	1956	1944	1951	1934	1932		

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
35.6	17.2	59.4	35.8	17.8	75.7	36.1	15.0	107.4	34.4	13.9	104.7	35.0	12.2	109.7	1881	1881	Madras State—(contd.)
1889	1921	1916	1959	1954	1912	1918	1911	1891	1892	1901	1957	1899	1883	1930			Coimbatore.
33.3	16.1	52.1	35.6	16.7	116.8	35.0	16.1	50.8	32.8	14.4	81.3	32.2	12.8	37.6	1948	1948	Coimbatore (Peelamedu Aerodrome).
1958	1949	1950	1955	1948	1950	1949	1948	1947	1952	1954	1957	1950	1951	1954			
38.9	19.4	176.3	38.9	18.9	250.2	37.8	15.6	165.6	35.6	12.8	121.9	35.6	12.8	131.3	1881	1881	Salem.
1885	1909	1939	1891	1887	1885	1918	1911	1916	1948	1901	1882	1926	1945	1884			
38.4	21.1	73.9	38.4	20.0	83.6	37.2	18.9	113.0	36.7	16.1	260.9	33.3	16.1	83.3	1948	1948	Kallakurich.
1959	1956	1951	1957	1956	1956	1951	1950	1956	1948	1954	1959	1950	1954	1952			
39.4	20.6	134.6	38.3	20.0	135.6	38.9	18.9	208.3	35.0	16.7	309.9	35.0	11.1	426.5	1891	1891	Cuddalore.
1923	1899	1892	1891	1899	1911	1899	1899	1895	1915	1901	1913	1895	1933	1931			
36.6	21.0	38.2	36.6	21.3	16.4	34.6	20.0	56.2	31.1	17.0	76.0	30.1	13.5	5.4	1959	1959	Tirupattur.
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959			
39.4	21.1	106.2	38.3	20.0	122.9	37.8	15.6	170.9	35.0	13.9	299.0	33.9	12.2	152.9	1901	1901	Vellore.
1901	1952	1909	1908	1936	1921	1954	1911	1943	1952	1921	1930	1909	1950	1901			
..	23.1	46.7	..	23.2	20.8	..	21.1	112.6	..	19.8	170.7	..	19.2	3.1	1959	1959	Tambaram (Aerodrome).
..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959	..	1959	1959			
40.0	20.6	91.7	38.9	20.6	100.3	38.9	16.7	233.7	34.4	15.0	236.2	32.8	13.9	261.6	1881	1881	Madras.
1918	1935	1950	1883	1884	1881	1920	1889	1888	1952	1901	1922	1909	1895	1901			
38.9	21.7	92.2	37.8	22.2	104.9	36.7	20.6	126.3	35.0	16.7	164.6	31.7	16.1	113.8	1949	1949	Madras (Nungambakkam).
1953	1957	1955	1952	1956	1956	1951	1952	1958	1951	1954	1951	1951	1949	1952			
29.8	21.7	136.7	30.6	21.1	118.9	34.9	18.3	175.3	35.0	15.6	71.6	33.9	14.4	15.0	1952	1952	Coastal Mysore Karwar.
1959	1955	1955	1955	1954	1955	1959	1952	1954	1953	1952	1955	1957	1956	1959			
31.8	19.4	152.9	32.2	20.6	127.5	37.2	18.3	132.1	36.7	15.6	65.8	37.2	16.1	25.1	1939	1939	Honavar.
1957	1955	1940	1951	1950	1954	1950	1850	1944	1941	1950	1957	1949	1945	1947			
32.2	20.6	232.4	31.7	21.1	184.7	34.4	20.0	181.6	35.6	18.3	112.1	35.0	16.7	153.2	1911	1881	Mangalore.
1932	1911	1931	1955	1950	1900	1941	1933	1913	1941	1950	1958	1953	1950	1933			
29.7	20.9	136.2	30.5	21.2	95.9	33.2	21.1	70.4	34.3	19.0	51.0	34.6	18.5	68.4	1957	1957	Mangalore. (Bajpe Aerodrome).
1959	1957	1959	1959	1958	1959	1957	1957	1958	1959	1957	1957	1957	1959	1959			
36.1	9.4	144.3	36.7	8.9	203.2	36.7	8.3	128.3	36.1	6.1	138.4	32.8	2.8	81.8	1896	1896	Mysore (North) Bidar.
1924	1900	1947	1924	1918	1949	1901	1900	1903	1918	1900	1896	1923	1918	1906			
37.8	18.3	100.3	37.2	17.8	147.3	37.8	10.0	147.3	35.6	7.8	64.8	34.4	5.6	66.5	1891	1891	Gulbarga.
1899	1920	1910	1926	1954	1928	1899	1905	1893	1940	1945	1948	1920	1945	1906			
35.6	16.7	121.2	36.7	16.1	143.8	37.2	12.2	102.4	35.0	8.3	113.0	33.3	6.7	34.5	1896	1896	Bijapur.
1902	1906	1954	1896	1901	1949	1896	1897	1958	1896	1904	1922	1936	1897	1942			
29.9	17.8	110.0	31.7	16.3	74.8	33.2	15.3	82.5	33.0	9.4	44.2	32.6	8.9	0	1955	1955	Belgaum (C.T.O.).
1958	1956	1956	1959	1957	1959	1958	1958	1955	1958	1955	1957	1959	1956	..			
28.9	15.6	86.4	30.6	16.0	59.8	31.6	13.9	91.4	30.0	10.6	59.6	31.1	7.8	2.0	1952	1952	Belgaum (Sambre Aerodrome).
1954	1956	1956	1955	1957	1959	1957	1954	1957	1957	1955	1958	1952	1954	1958			
34.4	18.7	80.0	37.8	17.2	95.0	34.7	15.6	171.5	37.2	12.2	82.0	34.1	11.7	56.4	1931	1931	Gadag.
1948	1957	1957	1951	1952	1931	1959	1950	1947	1947	1939	1956	1959	1948	1933			

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Mysore (North)— (cont.) Raichur	35.6	10.0	49.8	38.3	12.8	49.3	42.8	16.7	23.9	43.3	16.1	95.8	45.6	18.3	87.9	43.3	16.1	118.1	38.3	17.8	137.2
	1897	1899	1926	1897	1929	1923	1892	1936	1955	1927	1936	1901	1928	1927	1952	1898	1896	1901	1915	1899	1959
Mysore (South) Bellary	36.7	10.6	46.2	39.4	12.2	59.9	42.8	14.4	26.7	43.9	16.1	77.0	43.9	18.3	162.3	42.2	18.9	85.3	38.3	19.4	102.9
	1897	1891	1884	1897	1891	1917	1892	1885	1930	1909	1905	1956	1897	1890	1940	1915	1956	1915	1915	1930	1953
Chitaldrug	33.9	11.1	104.1	36.1	13.3	88.9	38.9	16.1	17.8	39.4	17.2	105.7	41.7	16.7	181.6	37.8	17.2	118.4	34.4	19.9	114.8
	1900	1918	1918	1931	1947	1944	1925	1955	1915	1941	1904	1956	1931	1951	1955	1935	1906	1897	1932	1957	1910
Shimoga	33.3	9.5	1.0	3.72	10.6	2.3	38.9	11.7	29.2	38.4	17.8	114.5	39.2	18.3	89.4	36.1	18.3	114.4	31.7	19.4	111.0
	1952	1957	1953	1953	1953	1956	1953	1951	1955	1959	1951	1956	1959	1954	1957	1953	1956	1959	1952	1956	1953
Balehonnur	32.8	10.0	8.4	32.8	11.1	32.3	35.0	12.2	58.7	35.0	13.9	102.6	35.6	15.6	218.4	32.8	15.6	172.7	28.9	13.9	219.2
	1953	1946	1947	1951	1940	1952	1949	1940	1936	1950	1952	1956	1959	1952	1955	1953	1943	1941	1945	1955	1953
Hassan	32.2	7.3	59.7	35.0	8.3	50.3	36.7	9.4	57.9	37.2	14.4	72.9	37.8	14.4	143.8	34.4	16.1	94.5	31.1	15.0	82.5
	1955	1899	1921	1906	1898	1941	1934	1898	1954	1942	1905	1899	1906	1923	1903	1953	1936	1941	1905	1918	1929
Mysore	32.8	11.1	26.4	36.1	12.2	59.4	37.8	13.3	47.5	38.3	16.1	133.3	37.8	15.6	184.4	37.2	15.0	68.6	33.3	17.2	71.6
	1936	1953	1926	1931	1946	1917	1931	1933	1923	1931	1918	1921	1936	1904	1957	1926	1936	1915	1899	1956	1918
Bangalore (Central Observa- tory).	32.2	7.8	65.8	34.4	9.4	67.3	37.2	11.1	50.8	38.3	14.4	90.7	38.9	16.7	153.9	37.8	16.7	101.6	33.3	16.1	105.4
	1925	1884	1908	1926	1884	1901	1925	1884	1911	1931	1894	1939	1931	1945	1909	1926	1890	1891	1914	1882	1949
Bangalore (Aero- drome).	31.2	11.7	13.0	34.4	12.2	28.5	36.6	11.7	18.5	38.0	17.2	58.9	37.0	16.7	68.6	35.6	16.7	70.6	32.2	16.1	66.3
	1959	1956	1958	1959	1950	1950	1959	1950	1954	1959	1950	1953	1959	1949	1952	1953	1950	1949	1952	1953	1952
Kerala																					
Kozhikode	35.6	17.2	104.4	35.6	16.1	150.1	35.0	19.4	83.3	35.6	21.1	143.3	37.2	20.0	268.5	33.9	20.6	250.2	32.2	21.1	264.2
	1952	1913	1909	1952	1925	1945	1954	1896	1936	1952	1938	1899	1920	1937	1932	1948	1956	1941	1931	1956	1923
Palghat	36.4	15.6	31.5	38.9	18.9	29.7	41.4	20.4	78.7	41.7	20.4	90.4	40.8	20.6	236.2	35.6	20.6	99.1	32.2	20.6	107.7
	1958	1946	1948	1959	1954	1952	1959	1959	1948	1950	1959	1954	1959	1955	1957	1948	1956	1955	1945	1956	1949
Fort Cochin	33.3	17.8	133.3	33.9	19.4	105.4	33.9	21.1	101.9	34.1	21.7	160.5	34.6	21.1	253.2	32.7	20.6	185.4	31.7	21.1	213.9
	1955	1929	1921	1945	1932	1899	1949	1954	1922	1959	1943	1956	1959	1939	1933	1958	1935	1900	1953	1943	1910
Cochin (Naval Air Station).	34.3	19.1	28.8	33.4	21.1	73.7	31.7	21.6	19.1	34.2	21.7	177.0	34.6	22.2	140.7	32.8	21.7	170.5	31.4	20.6	110.7
	1959	1957	1957	1959	1956	1956	1959	1959	1958	1959	1956	1956	1959	1958	1957	1958	1956	1958	1958	1956	1957
Alleppey	35.0	18.3	38.1	35.0	20.0	65.2	36.7	21.1	69.9	35.0	21.1	274.3	35.6	20.6	138.0	34.4	21.1	227.3	31.7	20.6	150.6
	1959	1957	1951	1956	1953	1959	1949	1955	1947	1946	1948	1959	1955	1958	1948	1956	1948	1953	1950	1949	
Punalur	36.6	15.7	44.5	37.8	15.8	20.0	39.3	17.9	39.9	37.9	20.2	61.2	37.1	21.3	80.2	33.8	21.3	140.2	32.9	21.0	88.6
	1959	1957	1958	1959	1959	1959	1959	1957	1958	1959	1957	1959	1957	1959	1957	1958	1958	1959	1958	1957	1957
Trivandrum	35.5	18.9	52.1	35.0	18.9	88.1	36.2	20.6	78.7	35.0	21.7	129.8	35.2	21.7	277.9	34.4	20.0	154.7	31.7	21.1	151.6
	1959	1950	1918	1955	1946	1927	1959	1956	1954	1958	1956	1937	1957	1956	1926	1953	1956	1944	1956	1959	1910
Trivandrum (Aero- drome).	33.9	18.3	8.6	33.4	18.3	83.2	35.0	20.0	43.2	34.4	21.1	82.3	34.5	22.2	91.4	32.9	21.1	94.2	32.2	20.2	135.2
	1955	1956	1956	1959	1956	1959	1956	1959	1958	1956	1956	1956	1959	1956	1959	1959	1956	1957	1956	1959	1959
Arabian Sea Islands																					
Minicoy	32.8	17.8	126.2	32.2	17.2	57.1	32.8	19.4	54.6	35.6	21.7	121.2	36.7	21.7	238.5	33.9	22.2	148.6	31.7	21.1	154.9
	1948	1953	1926	1948	1946	1944	1941	1955	1936	1942	1959	1950	1932	1956	1949	1935	1945	1926	1953	1938	1929
Amini Divi	36.7	18.9	74.2	35.7	19.4	18.0	37.2	20.6	32.0	37.5	20.0	121.9	37.5	21.7	161.0	35.9	21.1	211.1	33.3	21.7	180.3
	1950	1912	1918	1959	1923	1902	1950	1950	1923	1958	1923	1901	1959	1941	1933	1958	1930	1909	1945	1910	1907
Hill Stations exclu- ding Kashmir																					
Walong . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

X=Highest Maximum Temperature.
N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station	
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temper- ature	Rainfall		
37.8	17.2	107.7	38.3	19.4	120.8	37.2	15.6	158.7	35.0	11.7	87.6	36.1	10.0	52.1	1831	1896	Mysore (North) (contd.) Raichur.	
1915	1908	1914	1997	1948	1949	1920	1943	1916	1920	1924	1919	1899	1945	1903			Mysore (South) Bellary.	
37.8	19.4	105.7	37.8	19.4	127.5	38.9	15.0	111.3	37.6	11.7	162.1	35.6	10.6	33.5	1881	1881		
1883	1933	1950	1913	1919	1956	1896	1889	1904	1957	1910	1903	1913	1926	1925			Chitaldrug.	
32.8	18.4	109.2	35.0	15.0	95.5	33.9	15.6	132.1	32.8	8.3	87.4	32.8	8.3	109.2	1896	1896		
1932	1957	1939	1905	1910	1933	1905	1943	1930	1931	1945	1925	1930	1945	1933			Shimoga.	
30.4	16.1	49.8	33.3	16.1	45.7	31.7	11.7	64.4	33.3	8.3	55.1	32.2	8.9	43.4	1950	1950		
1958	1954	1953	1951	1952	1950	1958	1952	1958	1953	1950	1956	1958	1951	1952				
29.4	16.1	179.8	30.6	13.3	83.3	29.4	12.8	85.6	29.4	10.0	55.9	30.0	8.3	56.9	1931	1931	Balehonnur.	
1947	1951	1949	1936	1935	1955	1959	1952	1943	1951	1934	1932	1945	1937	1937				
31.1	15.6	79.8	32.2	13.9	104.0	32.2	11.7	163.2	31.1	8.3	115.8	31.1	6.7	80.8	1896	1896	Hassan.	
1932	1925	1897	1905	1906	1959	1905	1897	1958	1927	1904	1925	1926	1907	1906				
33.9	16.7	95.3	33.3	15.0	129.3	32.8	13.9	111.5	32.2	11.1	105.2	31.7	10.6	78.5	1896	1896	Mysore.	
1899	1928	1910	1936	1906	1940	1905	1917	1902	1918	1901	1915	1923	1945	1952				
33.3	14.4	162.1	33.3	15.0	124.7	32.2	13.3	116.8	31.1	10.6	114.5	31.1	8.9	67.3	1881	1881	Bangalore. (Central Observatory).	
1899	1882	1890	1951	1883	1912	1934	1889	1935	1923	1839	1916	1926	1883	1941				
31.1	15.0	62.8	32.8	15.6	95.8	32.1	14.4	169.2	31.7	11.7	83.6	30.1	11.1	20.8	1948	1948	Bangalore. (Aerodrome).	
1958	1948	1959	1951	1954	1958	1958	1950	1953	1953	1950	1950	1957	1954	1952				
																		Kerala
32.2	20.6	204.5	33.9	21.1	179.1	34.4	20.0	189.2	34.4	16.1	192.3	34.8	16.1	115.1	1891	1881	Kozhikode.	
1953	1950	1924	1952	1954	1955	1897	1917	1940	1929	1901	1925	1957	1895	1942				
31.7	20.6	109.5	35.6	20.6	86.9	35.0	20.6	95.4	35.6	17.2	65.8	34.5	16.7	89.7	1943	1943	Palghat.	
1947	1946	1956	1955	1954	1944	1945	1954	1959	1952	1954	1948	1958	1945	1946				
32.2	21.1	155.7	31.1	21.1	111.8	32.2	21.1	236.2	32.8	19.4	121.4	32.9	19.4	154.7	1926	1881	Fort Cochin.	
1929	1946	1947	1955	1950	1936	1930	1943	1884	1953	1944	1920	1957	1945	1946				
30.6	21.6	95.5	30.8	21.7	59.2	34.1	22.2	138.2	32.8	21.2	69.9	34.2	18.8	50.6	1956	1956	Cochin. (Naval Air Station).	
1959	1958	1958	1959	1956	1958	1957	1956	1957	1957	1959	1957	1957	1959	1959				
31.7	21.1	139.2	32.2	21.7	134.1	32.8	21.1	163.1	34.4	20.6	132.3	35.0	17.3	82.5	1944	1944	Alleppey.	
1949	1948	1947	1951	1950	1955	1946	1950	1945	1949	1954	1945	1951	1944	1947				
32.7	21.2	60.0	34.3	19.4	69.6	34.9	20.4	98.5	34.0	17.4	63.5	34.4	16.7	49.1	1957	1957	Punalur.	
1959	1959	1958	1957	1957	1959	1959	1957	1957	1957	1957	1957	1958	1958	1957				
32.8	20.6	102.4	33.3	21.1	125.5	33.3	21.1	215.9	33.9	18.9	162.8	34.4	18.9	148.8	1931	1889	Trivandrum.	
1953	1946	1932	1946	1950	1907	1940	1950	1908	1954	1944	1948	1955	1945	1919				
31.1	21.1	55.6	32.8	21.7	116.8	31.7	21.7	82.8	32.6	20.6	114.8	32.8	18.3	41.7	1954	1954	Trivandrum. (Aerodrome).	
1956	1955	1958	1955	1956	1955	1957	1955	1955	1959	1954	1955	1957	1955	1955				
31.7	21.1	200.7	32.2	21.7	107.7	33.3	19.4	128.3	32.2	17.2	132.1	32.2	18.3	187.5	1896	1896	Arabian Sea Islands Minicoy.	
1934	1934	1930	1937	1954	1916	1931	1945	1910	1947	1942	1907	1957	1955	1898				
32.8	22.2	241.8	33.9	21.7	217.7	35.9	20.6	133.6	35.0	16.3	88.9	35.0	18.9	119.4	1896	1896	Amini Divi.	
1935	192.5	1909	1940	1950	1915	1958	1928	1928	1949	1910	1932	1959	1908	1925				
..	Hill Stations excluding Kashmir
..	Walong.

R=Heaviest Rainfall in 24 hours ending at 0830 hr. I. S. T.

..=Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July					
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R			
Hill Stations excluding Kashmir (contd.)																								
Kohima	19.6	5.0	21.6	22.2	3.8	14.7	29.1	7.1	36.1	32.2	9.4	33.6	33.9	12.8	74.9	29.5	15.0	105.9	28.9	15.6	74.9	1959	1956	1957
Aijal	25.0	3.9	42.4	27.8	3.9	37.6	31.1	5.6	102.9	33.3	10.6	76.2	33.1	13.3	131.8	31.1	9.4	85.1	30.6	14.4	148.6	1954	1945	1945
Shillong	21.1	-2.8	52.3	24.4	-2.8	41.1	28.9	-0.6	189.5	30.0	6.7	117.9	30.1	5.6	169.7	29.1	11.7	415.3	28.3	15.0	205.7	1944	1937	1957
Cherrapunji	26.7	1.1	85.3	28.9	0.6	91.9	30.6	0.6	306.1	28.3	3.9	462.3	28.9	3.3	812.0	27.8	11.7	973.8	28.3	11.7	838.2	1913	1959	1929
Darjiling (Raj Bhanwan).	18.9	-3.9	134.6	17.2	-5.0	42.9	23.3	-0.6	72.9	26.7	1.1	135.1	23.9	5.6	232.9	26.7	8.3	454.1	25.0	3.9	200.9	1952	1953	1957
Kalimpong	26.1	0.6	40.6	26.1	3.3	45.0	27.8	4.6	50.8	30.6	8.3	69.6	29.5	10.0	122.4	30.6	14.4	302.0	28.9	15.2	195.8	1956	1945	1957
Katmandu	25.0	-2.8	36.6	28.3	-1.1	27.4	33.3	1.1	47.2	37.2	4.4	43.4	37.5	9.4	55.6	37.8	13.2	108.5	32.8	16.1	167.4	1946	1955	1942
Mukteswar (Kumaon)	19.4	-6.1	81.3	23.9	-7.8	76.5	25.0	-3.3	67.8	27.8	-1.7	49.0	29.4	3.3	71.4	30.0	6.7	220.7	30.6	9.4	159.5	1910	1953	1945
Nainital	18.4	-5.6	77.5	21.7	-2.2	69.1	21.7	1.1	60.2	26.1	3.9	35.6	27.8	10.0	208.3	28.3	11.1	141.2	26.1	14.4	223.5	1958	1953	1953
Tapoban	18.9	-4.4	30.5	26.7	-2.2	5.3	26.7	0.6	38.1	30.6	0.6	38.1	31.7	6.1	31.7	32.8	7.2	35.6	31.7	7.2	48.3	1957	1955	1955
Joshimath	16.4	-0.6	27.3	16.7	3.2	54.8	24.9	2.2	33.4	27.7	3.7	11.2	29.6	11.1	4.3	96.6	12.7	38.2	28.8	15.3	25.4	1959	1959	1959
Badrinath . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20.0	6.9	8.2	20.0	10.0	121.4	..	..	..
Lokpal	14.0	-16.1	77.5	0	-13.9	75.0	-3.3	-10.6	30.0	2.1	-11.1	34.3	10.0	-7.8	38.6	11.1	-3.3	31.7	11.1	1.7	77.4	1957	1955	1955
Mussooree	21.1	-5.0	90.9	23.3	-6.7	82.0	26.1	-2.2	62.0	28.9	-0.6	43.2	34.4	5.6	50.0	31.7	5.3	139.9	29.4	12.2	196.9	1949	1935	1943
Simla	18.9	-10.6	78.7	20.6	-8.3	63.5	23.9	-5.6	63.0	28.3	-1.1	39.6	30.0	4.4	97.8	30.6	7.8	122.2	27.8	10.0	167.1	1949	1945	1888
Dharampore . . . . .	..	..	81.3	..	..	81.3	..	..	104.1	..	..	78.7	..	..	56.9	..	..	91.4	..	..	147.3	..	..	1954
Dalhousie	21.7	-5.0	134.6	29.4	-2.8	134.6	30.7	-0.6	149.6	29.8	1.1	112.3	33.3	6.7	53.9	34.4	8.9	97.3	32.8	8.4	232.6	1952	1953	1950
Dharamshala	21.1	0.6	76.4	25.0	0	65.0	28.3	4.4	72.4	33.8	8.8	52.8	36.7	11.1	74.9	38.3	14.5	88.2	35.3	16.7	262.8	1952	1954	1959
Abu	26.1	-1.1	37.9	28.9	0	40.6	33.3	3.9	27.2	36.9	10.0	27.4	38.3	11.1	92.7	38.3	13.9	343.1	32.8	16.1	460.5	1932	1929	1888
Pachmarhi	27.8	-1.1	94.2	31.7	-0.6	52.1	36.1	3.3	55.1	40.0	8.9	38.6	40.6	15.0	35.3	40.6	15.6	201.9	35.0	16.1	338.3	1946	1935	1957
Mahabaleshwar	28.9	6.1	22.1	31.1	3.9	29.0	33.9	9.4	33.0	36.1	11.1	95.0	34.4	13.9	57.9	32.2	12.8	310.4	23.9	13.8	381.2	1938	1945	1943

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station.
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temper- ature	Rainfall	
30.6	17.1	102.1	27.8	15.9	95.3	27.2	12.1	83.8	24.5	8.3	68.8	19.5	6.1	5.1	1952	1952	Hill Stations excluding Kasimbar (contd.) Kohima.
1957	1959	1954	1959	1957	1953	1956	1957	1954	1957	1952	1955	1958	1954	1953			
29.4	12.8	137.4	29.4	15.6	136.1	29.3	8.9	236.0	28.3	8.3	73.4	26.7	5.6	57.9	1938	1938	Aijal.
1944	1946	1943	1949	1941	1938	1958	1947	1959	1943	1942	1942	1947	1947	1945			
29.2	14.4	118.1	27.8	11.7	226.1	27.2	5.6	296.2	25.6	1.1	96.0	22.8	-1.7	41.1	1906	1906	Shillong.
1957	1932	1916	1946	1940	1927	1938	1921	1946	1943	1937	1950	1918	1929	1926			
29.2	12.8	382.7	28.9	12.8	632.2	29.4	10.0	590.5	26.7	6.7	332.2	23.3	3.9	189.7	1906	1906	Cherrapunji.
1957	1943	1932	1906	1925	1951	1938	1947	1919	1915	1946	1917	1951	1929	1926			
26.7	8.3	237.5	26.7	10.0	192.8	23.3	4.4	334.5	22.2	-0.6	219.7	20.0	-1.7	31.2	1891	1881	Darjiling (Raj Bhawan).
1957	1946	1915	1900	1940	1899	1944	1913	1929	1943	1951	1912	1947	1905	1885			
30.9	10.0	141.7	29.1	13.9	206.0	28.3	8.9	206.3	26.3	3.9	50.8	26.7	-0.6	29.0	1921	1926	Kalimpong.
1957	1955	1950	1957	1924	1929	1944	1944	1929	1959	1944	1948	1953	1922	1934			
33.3	16.1	101.6	33.3	13.3	71.4	33.3	5.6	47.5	29.4	0.6	28.5	28.3	-2.8	15.2	1914	1935	Kathmandu.
1939	1954	1945	1938	1940	1936	1938	1934	1937	1931	1938	1948	1917	1954	1937			
26.1	11.1	203.7	25.6	6.7	254.5	25.0	1.7	182.4	21.7	-1.1	45.2	21.7	-5.0	90.7	1901	1901	Mukteswar (Kumaon).
1928	1919	1948	1946	1940	1914	1909	1913	1910	1953	1918	1927	1944	1954	1957			
25.1	12.8	189.7	23.9	10.6	313.7	22.3	5.6	300.7	21.1	2.8	15.2	21.2	-1.1	153.7	1953	1953	Nainital.
1957	1956	1954	1959	1953	1957	1957	1957	1956	1953	1959	1957	1957	1955	1957			
27.8	10.0	45.7	27.8	11.1	35.6	26.7	4.4	81.3	21.7	3.9	2.0	21.1	0	7.0	1953	1953	Tapoban.
1956	1957	1954	1956	1957	1957	1956	1956	1955	1955	1956	1957	1956	1955	1957			
28.0	15.0	43.8	26.2	13.7	43.0	25.4	6.7	22.6	18.8	3.6	22.5	17.4	-0.3	0	1953	1959	Joshimath.
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959			
21.7	-7.8	27.0	18.3	6.1	22.7	16.0	1.1	22.2	13.9	..	0	..	..	..	1958	1958	Badrinath.
1959	1958	1959	1958	1958	1958	1959	1959	1958	1958	..	..	..	..	..
10.6	2.2	43.2	10.9	-2.2	55.4	8.9	-7.8	66.0	8.9	-12.2	38.9	2.2	-16.7	66.5	1951	1951	Lokpal.
1957	1956	1957	1959	1951	1951	1952	1954	1956	1952	1957	1954	1953	1952	1956			
25.6	12.2	302.3	27.2	6.1	199.6	25.6	3.3	198.1	25.0	1.1	30.5	31.7	-3.9	111.0	1926	1926	Mussooree.
1957	1937	1931	1946	1940	1947	1951	1945	1956	1952	1937	1928	1953	1954	1957			
27.8	10.6	227.1	25.0	5.0	135.9	23.9	2.8	113.0	21.1	-1.1	68.8	20.0	-6.1	76.5	1896	1881	Simla.
1951	1957	1901	1946	1940	1892	1938	1904	1884	1952	1911	1894	1932	1937	1923			
..	..	165.1	..	..	213.4	..	..	199.4	..	..	130.8	..	..	31.0	..	1947	Dharampore.
..	..	1954	..	..	1955	..	..	1956	..	..	1951	..	..	1958			
26.2	11.7	243.2	26.2	10.6	274.0	26.8	-2.2	287.0	25.7	3.1	97.8	23.9	-3.3	132.2	1947	1947	Dalhousie.
1957	1957	1959	1959	1953	1959	1959	1959	1955	1958	1957	1957	1952	1954	1958			
29.5	16.2	316.9	29.4	14.4	257.2	28.3	10.4	196.9	24.7	7.2	38.1	22.2	1.7	60.5	1951	1951	Dharamshala.
1957	1957	1958	1951	1953	1959	1953	1957	1955	1958	1951	1957	1953	1954	1958			
31.1	15.0	484.9	31.1	15.0	469.1	31.7	10.6	148.1	28.9	6.1	43.7	27.8	-0.6	25.4	1881	1881	Abu.
1883	1913	1941	1929	1909	1950	1941	1947	1917	1929	1938	1896	1941	1929	1898			
30.0	15.0	458.7	35.6	12.8	350.3	31.7	6.7	164.1	28.3	2.2	99.1	27.8	-1.1	63.0	1881	1881	Pachmarhi.
1899	1939	1913	1931	1940	1932	1920	1933	1955	1957	1912	1912	1941	1926	1885			
26.7	13.9	339.9	27.8	12.2	327.1	30.6	11.1	191.5	28.9	10.0	148.6	28.3	8.3	39.6	1931	1929	Mahabaleshwar.
1950	1957	1956	1951	1935	1930	1957	1931	1938	1950	1955	1948	1953	1940	1933			

R = Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

.. = Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July		
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R
Hill Stations excluding Kashmir (contd.)																					
Nandi Hills	25.6	8.9	32.8	28.3	10.0	6.3	30.6	13.3	35.6	32.2	13.3	54.6	32.8	13.3	167.6	30.0	12.2	99.1	25.6	12.8	176.8
	1954	1946	1954	1959	1947	1952	1953	1955	1951	1956	1949	1955	1950	1955	1948	1953	1948	1956	1952	1952	1951
Mercara	31.7	9.4	30.0	31.7	8.9	31.7	33.3	10.6	55.4	33.9	10.6	87.6	35.0	9.4	174.0	30.0	10.0	206.3	28.9	11.2	364.5
	1954	1946	1906	1911	1936	1950	1921	1955	1928	1896	1955	1915	1902	1955	1909	1939	1955	1941	1955	1958	1924
Kodaikanal	24.4	2.8	194.8	24.4	4.4	158.7	26.7	4.4	106.7	26.1	8.2	123.7	27.8	7.8	131.1	23.9	5.0	60.5	22.2	8.9	79.3
	1916	1950	1943	1914	1955	1925	1926	1955	1947	1925	1958	1955	1923	1955	1955	1906	1912	1947	1918	1910	1924
Ootacamund	23.9	-1.7	114.8	26.7	0	51.6	25.6	3.9	96.2	27.2	5.0	84.1	26.7	4.4	184.4	25.0	5.0	133.1	21.1	6.7	102.4
	1959	1921	1909	1945	1953	1917	1949	1959	1958	1942	1959	1947	1941	1917	1955	1944	1958	1941	1949	1908	1902
Coonoor	25.6	1.7	196.6	26.7	2.8	207.5	26.7	5.0	157.5	27.8	8.9	137.7	29.4	11.0	193.0	27.8	9.4	97.3	25.0	11.1	41.9
	1942	1946	1943	1945	1939	1936	1943	1949	1951	1956	1944	1951	1931	1959	1957	1953	1936	1939	1952	1955	1942
Sikkim																					
Lachen	18.9	-5.6	66.0	18.9	-5.6	30.5	18.9	-6.7	43.2	18.3	-5.6	30.5	19.4	0.6	33.0	20.6	5.6	45.7	21.7	6.1	82.0
	1958	1958	1957	1958	1958	1959	1958	1958	1956	1958	1958	1955	1958	1958	1956	1959	1958	1952	1959	1958	1959
Tibet																					
Yatung (Chumbi)*																					
Lhasa*																					
Ceylon																					
Colombo	34.4	15.0	116.1	35.6	16.1	132.6	35.6	17.8	97.5	33.9	18.9	210.1	32.8	20.6	289.6	32.2	21.1	144.8	32.8	21.7	184.1
	1932	1950	1954	1950	1956	1915	1945	1934	1947	1950	1952	1949	1957	1955	1936	1953	1949	1953	1942	1950	1916
Trincomalee	30.6	18.9	208.5	32.2	18.3	107.9	36.7	20.0	240.3	38.9	21.1	141.0	38.3	21.1	271.5	38.3	20.6	79.5	36.7	21.7	99.8
	1945	1953	1921	1945	1947	1937	1953	1947	1944	1956	1945	1955	1953	1931	1930	1953	1938	1911	1947	1946	1926
Batticola	30.0	17.2	156.2	32.2	17.2	129.8	33.9	20.0	109.5	35.6	21.7	76.2	37.2	22.2	64.0	37.2	22.8	25.4	36.7	21.7	67.3
	1954	1945	1951	1948	1953	1957	1951	1945	1950	1949	1945	1951	1956	1952	1945	1956	1956	1956	1959	1955	1955
Hambantota	32.8	18.3	121.9	33.3	18.3	101.9	34.4	18.9	94.0	34.4	21.1	110.5	35.6	21.7	259.8	37.2	21.1	68.6	35.6	20.6	80.5
	1942	1945	1913	1941	1939	1938	1952	1946	1941	1936	1932	1939	1946	1943	1940	1946	1944	1951	1936	1954	1953
Mannar	31.1	18.9	115.1	33.7	18.9	83.6	35.0	20.0	65.0	36.1	20.6	50.0	36.1	22.2	76.7	35.0	23.9	40.9	33.9	22.2	31.2
	1958	1956	1949	1954	1957	1951	1948	1951	1945	1956	1950	1954	1957	1950	1949	1946	1956	1959	1947	1952	1947
Hydrometeorological Observatories Damodar Catchment																					
Bokaro	31.8	2.8	49.5	35.0	2.2	20.6	41.1	8.2	30.5	43.3	14.3	46.2	45.0	17.2	45.7	45.6	21.1	70.9	37.4	21.1	216.1
	1958	1956	1953	1952	1950	1953	1955	1957	1957	1959	1957	1951	1956	1951	1958	1958	1959	1950	1958	1958	1953
Hazaribagh†	25.4	4.6	39.1	28.5	5.7	0	35.9	11.2	2.0	39.7	15.0	4.5	40.7	21.2	24.8	36.9	19.4	114.8	32.8	21.7	60.6
	1959	1959	1959	1959	1959	..	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959
Tilaiya	30.4	4.9	55.4	31.8	7.7	19.1	38.0	10.1	29.7	41.2	17.0	17.8	43.4	22.7	8.6	43.7	24.1	69.6	38.2	20.0	105.4
	1958	1959	1957	1958	1959	1958	1958	1957	1957	1959	1959	1958	1957	1958	1959	1958	1957	1957	1958	1958	1959
Ramgarh	33.0	2.2	25.7	35.6	4.8	40.4	41.1	7.8	20.1	43.9	13.9	41.0	46.1	19.4	76.4	46.1	21.6	102.0	42.2	22.2	88.1
	1958	1955	1953	1952	1957	1953	1955	1957	1958	1956	1953	1959	1956	1951	1959	1955	1959	1959	1951	1959	1957
Panchet Hills	32.2	6.7	41.7	34.9	8.9	17.5	41.1	12.2	24.4	45.0	16.4	11.9	46.5	20.6	43.2	46.1	22.2	90.9	37.7	21.7	129.0
	1958	1955	1954	1958	1956	1959	1955	1954	1958	1956	1957	1956	1957	1956	1958	1958	1953	1957	1958	1957	1953
Durgapur	31.7	7.9	14.7	35.0	10.0	63.5	40.0	15.1	6.9	43.6	20.6	14.5	45.8	21.4	37.5	46.4	21.4	132.1	37.2	23.5	84.9
	1958	1959	1957	1958	1959	1959	1958	1957	1958	1957	1959	1959	1958	1959	1959	1958	1958	1957	1958	1957	1959

*Observatories closed from 1-5-59.

†Departmental Observatory at same station hence not extremes compiled.

X=Highest Maximum Temperature.

N=Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall	
Hill Stations excluding Kashmir —(contd.)																	
25.6	13.3	119.4	26.1	12.2	121.9	25.6	12.2	100.0	24.4	3.9	14.8	25.0	7.9	68.1	1945	1945	Nandi Hills.
1947	1947	1946	1951	1949	1946	1958	1948	1958	1953	1945	1949	1945	1959	1946			
26.7	12.2	194.6	27.2	12.2	103.4	28.3	10.6	151.6	27.8	10.6	86.4	28.9	9.4	85.9	1891	1881	Mercara.
1951	1920	1884	1951	1935	1938	1899	1948	1887	1918	1947	1925	1903	1937	1902			
21.1	8.3	118.9	21.7	3.9	104.1	21.1	6.1	147.1	21.7	3.9	197.1	22.8	2.8	133.1	1901	1901	Kodaikanal.
1905	1913	1935	1928	1907	1914	1914	1935	1930	1927	1901	1948	1910	1922	1903			
21.7	6.7	60.5	27.8	1.4	65.3	21.7	0	102.4	23.3	-1.1	269.8	23.9	-1.1	152.9	1901	1901	Ootacamund.
1918	1957	1909	1951	1953	1951	1957	1943	1916	1952	1949	1939	1918	1947	1941			
24.4	8.9	70.6	24.4	3.9	73.1	25.6	6.1	139.9	24.4	3.3	163.1	25.6	2.2	228.6	1931	1931	Coonoor.
1944	1953	1933	1944	1935	1955	1941	1933	1938	1938	1942	1948	1941	1956	1952			
Sikkim																	
21.1	6.1	57.9	21.1	-0.6	39.4	19.4	1.7	58.0	15.6	0.6	22.1	13.3	-5.6	30.5	1958	1951	Lachen.
1958	1958	1952	1958	1958	1951	1959	1959	1959	1959	1959	1951	1958	1959	1954			
Tibet																	
Yatung (Chumbi).																	
Lhasa.																	
Ceylon																	
33.9	21.7	126.0	31.7	21.1	153.4	31.7	20.6	256.3	32.2	18.9	210.3	32.8	17.2	114.3	1928	1911	Colombo.
1944	1954	1933	1952	1950	1937	1957	1938	1930	1956	1947	1934	1958	1939	1946			
36.7	21.1	107.4	36.7	21.1	128.5	36.7	21.1	154.2	34.4	18.3	200.4	32.2	20.0	322.8	1928	1911	Trincomalee.
1959	1955	1930	1959	1946	1919	1948	1951	1952	1948	1944	1923	1941	1937	1940			
36.7	21.7	68.1	37.8	22.2	63.7	35.0	21.7	35.9	32.3	20.6	116.3	32.2	20.0	192.0	1945	1945	Batticala.
1957	1955	1950	1954	1956	1956	1946	1953	1959	1955	1953	1946	1946	1956	1953			
35.0	20.6	74.9	35.0	21.7	84.1	34.4	21.1	91.4	35.6	18.9	134.4	32.2	18.3	159.5	1930	1911	Hambantota.
1955	1933	1917	1949	1919	1927	1955	1933	1924	1938	1941	1944	1956	1937	1923			
33.9	22.8	49.8	24.2	22.2	35.1	33.5	21.7	149.6	32.2	21.7	125.7	30.6	20.6	205.5	1945	1945	Mannar.
1953	1945	1948	1951	1953	1951	1957	1954	1954	1956	1949	1954	1952	1957	1957			
Hydrometeorological Observatories Damodar Catchment																	
35.2	22.2	106.9	35.2	18.9	148.3	35.2	11.7	122.0	33.9	5.0	23.4	31.7	2.8	9.9	1950	1950	Bokaro
1957	1953	1953	1958	1950	1958	1957	1951	1959	1950	1952	1953	1950	1955	1954			
31.0	22.1	63.2	30.4	21.2	49.7	30.4	14.8	107.2	26.9	8.2	0	24.2	5.1	0	1959	1959	Hazaribagh†
1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	1959	..	1959	1959	..			
34.7	22.4	156.2	34.2	22.2	115.6	32.9	14.0	171.2	30.7	10.3	0	28.8	5.6	0	1957	1957	Tilaiya
1957	1957	1957	1958	1959	1958	1957	1957	1959	1958	1959	..	1957	1959	..			
36.4	21.1	169.9	35.1	18.3	174.2	37.8	10.8	108.0	34.2	4.4	17.3	31.6	1.7	56.4	1950	1950	Ramgarh
1958	1953	1953	1957	1950	1954	1956	1957	1959	1957	1952	1953	1957	1955	1950			
36.1	21.1	82.8	36.4	19.3	195.1	35.8	15.0	181.6	33.3	9.9	43.2	31.7	6.7	12.5	1950	1950	Panchet Hills
1957	1958	1953	1958	1958	1956	1953	1954	1959	1957	1957	1955	1953	1955	1954			
36.7	23.3	80.0	35.6	22.0	89.0	35.3	18.3	139.0	33.3	12.8	0.5	0.5	30.0	9.2	1957	1957	Durgapur
1957	1958	1959	1958	1958	1959	1957	1959	1959	1957	1959	1958	1958	1957	1959			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

.. =Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AN

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Hydrometeorological Observatories Damodar Catchment—(Contd.)																						
Dhanwar . . . . .	..	..	49.5	..	..	5.6	..	..	11.2	..	..	9.7	..	..	38.1	..	..	88.9	..	..	126.0
	..	..	1957	..	..	1957	..	..	1957	..	..	1953	..	..	1952	..	..	1956	..	..	1955
Dumri . . . . .	..	..	10.7	..	..	10.2	..	..	13.2	..	..	13.5	..	..	70.6	..	..	69.9	..	..	95.5
	..	..	1956	..	..	1958	..	..	1955	..	..	1951	..	..	1954	..	..	1957	..	..	1957
Bishungarh . . . . .	..	..	55.9	..	..	10.7	..	..	27.4	..	..	35.6	..	..	46.0	..	..	83.3	..	..	114.3
	..	..	1953	..	..	1958	..	..	1957	..	..	1952	..	..	1954	..	..	1951	..	..	1951
Palganj (Giridih) . . . . .	..	..	53.9	..	..	11.2	..	..	37.1	..	..	42.9	..	..	88.7	..	..	85.3	..	..	85.1
	..	..	1957	..	..	1957	..	..	1957	..	..	1952	..	..	1956	..	..	1957	..	..	1957
Chandwa . . . . .	..	..	52.1	..	..	27.9	..	..	26.9	..	..	23.6	..	..	26.7	..	..	71.1	..	..	91.9
	..	..	1955	..	..	1958	..	..	1951	..	..	1951	..	..	1956	..	..	1958	..	..	1957
Maithon . . . . .	..	..	23.4	..	..	15.7	..	..	11.4	..	..	8.6	..	..	31.2	..	..	87.9	..	..	49.3
	..	..	1957	..	..	1957	..	..	1957	..	..	1958	..	..	1958	..	..	1957	..	..	1957
Mahanadi Catchment																						
Baramul	32.8	6.1	10.8	36.7	7.1	39.1	41.7	10.4	13.7	43.3	15.8	28.0	45.6	20.6	36.1	46.1	20.6	200.7	40.0	21.7	75.4	
	1958	1955	1959	1955	1958	1958	1959	1957	1956	1958	1957	1958	1956	1955	1956	1958	1957	1956	1957	1955	1958	
Hirakud	32.2	9.9	21.6	36.1	10.0	36.1	42.2	14.9	57.1	45.0	18.7	10.4	46.7	22.2	24.1	46.7	22.8	106.7	38.2	22.2	178.8	
	1955	1959	1957	1956	1956	1956	1955	1957	1958	1956	1957	1957	1956	1955	1956	1955	1955	1957	1958	1955	1958	
Khijrawan	32.2	6.4	3.8	34.3	5.3	14.7	38.9	11.8	40.9	42.3	20.9	34.3	43.2	21.1	31.7	47.6	21.6	104.0	44.9	22.1	58.7	
	1958	1958	1958	1957	1958	1957	1958	1957	1957	1958	1958	1957	1958	1958	1957	1957	1959	1959	1957	1959	1957	
Sonepur	32.2	9.4	7.4	38.3	9.4	33.0	42.2	14.9	15.0	43.9	19.1	19.3	46.7	18.8	25.4	46.7	21.8	142.2	37.1	16.1	166.4	
	1955	1955	1959	1955	1956	1957	1955	1958	1957	1956	1957	1959	1956	1957	1955	1955	1959	1959	1958	1957	1958	
Ginabahr	31.7	3.6	16.5	35.0	2.2	17.3	40.6	8.9	16.5	42.8	14.4	16.5	45.6	20.0	34.3	45.0	17.7	64.3	37.2	18.1	93.5	
	1958	1959	1959	1956	1959	1956	1955	1957	1957	1956	1957	1958	1956	1958	1956	1955	1959	1955	1958	1958	1956	
Bhimkund	31.3	4.7	12.8	35.1	8.6	13.2	40.1	13.6	13.0	43.9	19.3	44.7	43.8	15.8	45.0	44.9	21.3	73.0	33.3	21.9	100.3	
	1958	1959	1959	1959	1958	1958	1959	1959	1958	1959	1958	1958	1958	1958	1959	1958	1959	1959	1959	1959	1959	
Narbada Catchment																						
Punasa	34.2	5.6	19.3	40.0	6.1	18.8	43.1	10.7	9.9	47.5	15.0	9.7	48.1	19.4	56.6	46.1	21.7	103.9	38.1	20.1	183.6	
	1959	1954	1955	1953	1951	1952	1959	1957	1958	1958	1954	1957	1959	1954	1956	1953	1956	1956	1958	1959	1959	
Bagra Tawa	32.3	2.8	31.2	37.8	4.2	15.5	41.7	9.1	25.4	45.3	13.9	10.4	47.2	20.6	29.0	46.1	20.6	88.1	37.8	17.2	281.2	
	1958	1954	1951	1953	1957	1955	1953	1957	1957	1958	1955	1957	1954	1955	1956	1953	1955	1951	1958	1956	1959	
Thikri	35.0	5.6	20.3	39.4	2.2	8.4	42.8	10.6	0	47.4	16.1	9.0	47.8	22.2	26.9	45.6	20.0	93.5	39.4	21.1	107.9	
	1950	1953	1953	1953	1950	1949	1953	1957	..	1958	1955	1959	1951	1952	1949	1953	1952	1953	1950	1955	1950	
Sabarmati Catchment																						
Jhadol	29.4	—1.3	5.3	33.9	0.6	7.6	38.4	1.1	10.2	43.4	6.3	25.4	45.0	11.7	17.8	41.1	12.2	61.0	37.2	11.6	115.8	
	1958	1957	1958	1956	1956	1955	1959	1959	1956	1958	1959	1959	1956	1959	1956	1958	1959	1957	1957	1959	1956	
Bikrani . . . . .	..	..	8.6	..	..	0	..	..	0	..	..	43.2	..	..	0	..	..	66.0	..	..	145.3
	..	..	1958	..	..	..	..	..	..	..	..	1957	..	..	..	..	..	1955	..	..	1956
Dharoi	32.2	4.1	6.9	37.2	5.7	0	41.9	9.6	0	46.9	14.4	14.0	45.0	22.8	0	41.9	22.5	104.7	37.5	22.8	299.8	
	1958	1957	1958	1956	1957	..	1959	1957	..	1958	1956	1959	1956	1956	..	1959	1959	1956	1958	1958	1959	

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UP TO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temper- ature	Rainfall	
..	..	59.7	..	..	161.3	..	..	44.5	..	..	1.0	..	..	14.2	..	1951	Hydrometeorological Observatories Damodar Catchment
..	..	1957	..	..	1954	..	..	1952	..	..	1956	..	..	1956	..	..	Dhanwar.
..	..	171.5	..	..	144.3	..	..	46.2	..	..	9.1	..	..	8.1	..	1950	Dumri.
..	..	1956	..	..	1958	..	..	1958	..	..	1953	..	..	1954	..	..	Bishungarb.
..	..	142.2	..	..	96.0	..	..	61.0	..	..	15.7	..	..	9.7	..	1950	Bishungarb.
..	..	1953	..	..	1958	..	..	1958	..	..	1956	..	..	1956	..	..	Bishungarb.
..	..	76.7	..	..	104.7	..	..	52.1	..	..	29.7	..	..	23.6	..	1950	Palganj (Giridih).
..	..	1955	..	..	1954	..	..	1956	..	..	1956	..	..	1954	..	..	Palganj (Giridih).
..	..	85.1	..	..	76.2	..	..	57.4	..	..	15.7	..	..	6.6	..	1951	Chandwa.
..	..	1953	..	..	1953	..	..	1958	..	..	1956	..	..	1954	..	..	Chandwa.
..	..	50.0	..	..	131.3	..	..	41.7	..	..	0	..	..	0	..	1957	Maithon.
..	..	1958	..	..	1958	..	..	1958	..	..	..	..	..	..	..	..	Maithon.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Mahanadi Catchment
41.1	18.9	56.9	34.4	21.5	196.6	35.6	16.9	101.3	33.3	10.6	39.4	32.2	5.0	0	1955	1955	Baramul.
1957	1957	1958	1957	1957	1956	1957	1958	1956	1957	1955	1955	1957	1955	..	..	..	Baramul.
35.0	22.8	133.9	34.6	22.8	281.9	36.4	17.4	91.4	32.3	12.8	5.8	31.4	7.2	0.6	1955	1955	Hirakud.
1957	1956	1955	1959	1955	1955	1957	1957	1956	1959	1955	1956	1957	1955	1959	..	..	Hirakud.
32.5	22.7	91.4	32.4	21.6	70.3	34.4	15.4	72.0	30.8	8.5	16.5	30.8	5.2	0	1957	1957	Khijrawan.
1958	1958	1958	1957	1958	1958	1957	1958	1959	1957	1959	1958	1957	1959	..	..	..	Khijrawan.
35.6	20.5	160.5	35.6	14.7	287.8	35.8	15.1	64.5	33.3	7.7	2.0	32.2	6.9	10.1	1955	1955	Sonepur.
1957	1957	1956	1956	1957	1955	1957	1958	1958	1959	1959	1958	1957	1959	1959	..	..	Sonepur.
35.0	21.7	198.1	34.5	20.8	73.1	35.6	11.4	178.3	32.6	6.1	9.1	32.2	3.2	5.1	1955	1955	Ginababar.
1957	1958	1956	1957	1957	1955	1957	1957	1958	1957	1956	1956	1959	1959	1956	..	..	Ginababar.
33.0	22.9	29.0	34.4	22.4	59.8	32.6	16.6	40.5	31.2	9.3	11.3	30.3	6.2	0.2	1958	1958	Bhimkund.
1958	1959	1959	1958	1959	1959	1958	1959	1958	1959	1959	1958	1959	1959	1959	..	..	Bhimkund.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Narbada Catchment
35.6	20.6	175.3	37.2	14.4	158.5	38.9	10.6	45.0	38.8	6.1	15.0	34.5	3.9	4.3	1951	1951	Punasa.
1956	1952	1955	1951	1953	1954	1951	1952	1955	1958	1956	1958	1959	1955	1956	..	..	Punasa.
34.4	21.7	141.0	35.0	19.6	190.3	36.3	8.9	48.3	34.4	5.6	42.2	32.6	2.2	9.7	1951	1951	Bagra Tawa.
1954	1956	1952	1953	1957	1951	1957	1952	1955	1953	1952	1956	1959	1955	1956	..	..	Bagra Tawa.
36.1	20.6	209.8	38.9	18.9	206.0	40.6	11.1	52.6	37.8	6.7	11.5	34.5	5.0	7.9	1949	1949	Thikri.
1953	1950	1957	1951	1952	1959	1949	1955	1955	1951	1956	1958	1959	1952	1956	..	..	Thikri.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Sabarmati Catchment
34.2	15.8	84.6	33.1	14.7	88.9	37.3	7.2	60.0	33.6	-0.6	0	29.4	-1.0	4.3	1955	1955	Jhadol.
1957	1958	1957	1957	1957	1955	1957	1957	1959	1957	1956	..	1958	1959	1956	..	..	Jhadol.
..	..	114.3	..	..	100.8	..	..	21.3	..	..	14.0	..	..	20.0	..	1955	Bikrani.
..	..	1957	..	..	1958	..	..	1956	..	..	1957	..	..	1959	..	..	Bikrani.
36.1	21.1	105.9	36.4	20.8	83.0	39.1	15.6	64.0	37.2	10.6	0	32.5	8.1	0	1956	1956	Dharoi.
1957	1956	1957	1958	1959	1959	1957	1958	1958	1957	1956	..	1959	1959	..	..	..	Dharoi.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Hydrometeorological Observatories—contd.																						
Ganga Catchment																						
Mukhim	18.8	-2.7	18.3	21.7	-0.6	32.2	24.4	1.6	33.2	28.9	4.2	39.4	31.7	8.8	39.6	32.2	10.5	47.4	28.1	15.6	105.2	
	1957	1957	1959	1956	1957	1959	1958	1958	1958	1958	1959	1957	1956	1957	1957	1958	1957	1959	1957	1958	1957	
Tehri	23.9	0.4	50.3	30.0	3.2	23.9	34.2	6.8	29.7	39.3	9.0	24.6	40.6	15.4	39.9	42.3	12.1	49.5	37.7	13.2	73.7	
	1956	1957	1957	1956	1957	1959	1958	1959	1956	1958	1959	1957	1956	1957	1956	1958	1957	1958	1959	1957	1956	
Gandak Catchment																						
Gorkha	22.1	5.3	46.2	23.4	4.5	0.3	29.5	8.4	14.2	34.2	7.3	49.5	35.6	13.9	75.4	35.3	17.8	139.7	30.7	19.8	95.5	
	1957	1959	1957	1958	1959	1958	1958	1957	1958	1957	1959	1959	1957	1958	1959	1958	1957	1959	1957	1958	1957	
Pokhara	23.1	3.9	54.9	24.5	4.3	9.4	30.2	7.6	24.4	34.1	10.6	22.2	36.6	14.7	74.2	35.9	15.9	173.7	31.8	20.4	135.1	
	1957	1959	1957	1957	1957	1958	1959	1957	1958	1957	1957	1958	1957	1958	1959	1958	1958	1959	1959	1958	1958	
Nawakot	23.2	6.4	33.0	26.2	7.4	0.3	32.3	9.9	10.4	35.6	13.1	24.4	38.3	13.8	36.1	37.9	14.3	48.3	32.3	15.6	81.8	
	1958	1957	1957	1958	1959	1959	1958	1958	1958	1958	1959	1958	1957	1958	1957	1958	1957	1957	1957	1958	1959	
Jamosom	19.9	-7.6	45.7	20.0	-3.8	15.2	23.7	-1.1	15.2	25.4	1.4	8.1	26.3	3.2	15.4	25.7	6.5	9.7	26.5	12.3	17.5	
	1958	1958	1959	1958	1958	1958	1959	1958	1958	1959	1958	1959	1958	1958	1959	1958	1958	1959	1959	1958	1959	
Timure	20.1	1.2	21.6	19.9	1.1	2.5	25.1	4.1	19.1	29.5	5.2	10.2	30.9	10.9	26.7	31.2	13.9	20.8	27.6	16.2	34.3	
	1958	1959	1959	1958	1959	1958	1958	1959	1958	1959	1959	1959	1958	1958	1959	1958	1959	1959	1959	1958	1958	
Gogra Catchment (Trans-Himalayan Region)																						
Dailekh	21.1	3.1	36.8	19.9	3.4	13.4	27.3	7.7	52.6	34.0	9.2	25.4	34.3	15.7	27.7	35.1	16.2	43.2	28.5	18.9	113.3	
	1958	1959	1959	1957	1959	1959	1958	1959	1957	1959	1959	1958	1957	1959	1958	1958	1958	1959	1957	1959	1959	
Gogra Catchment																						
Dandekhura	18.9	-1.5	50.3	17.9	-0.2	21.5	24.4	-0.2	49.3	28.8	5.8	18.0	31.6	10.4	33.4	32.4	11.8	59.9	26.6	13.7	107.5	
	1959	1957	1958	1957	1957	1959	1959	1957	1958	1959	1959	1957	1958	1957	1959	1958	1957	1957	1959	1958	1959	
Munsiyari	18.7	-1.9	48.3	17.4	-0.3	9.7	20.7	1.7	25.2	25.5	5.8	52.1	30.8	8.1	32.3	30.2	11.6	25.4	..	..	139.7
	1957	1957	1958	1957	1957	1958	1957	1957	1957	1957	1957	1957	1957	1957	1957	1957	1957	1958	..	..	1958
Sallyana	19.7	..	35.8	20.2	..	0	25.5	..	10.2	30.6	..	19.8	..	..	0	..	..	32.0	..	..	61.0
	1957	..	1957	1957	..	1957	1957	..	1957	1957	..	1958	..	..	..	..	..	1957	..	..	1957
Butwal	26.1	4.6	24.1	28.9	-0.1	1.5	36.6	10.4	11.0	40.8	16.2	17.8	44.0	10.1	72.4	44.4	18.4	83.8	36.7	21.7	228.6	
	1958	1958	1959	1957	1957	1958	1958	1959	1959	1957	1959	1958	1958	1957	1959	1958	1958	1959	1958	1957	1958	
Bagmati Catchment																						
Kathmandu *	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	
Kosi Catchment																						
Chautra	22.2	2.8	46.5	23.9	3.9	16.5	28.4	5.8	24.1	32.6	8.3	67.0	35.1	13.6	52.1	34.4	14.4	98.8	29.4	15.4	99.1	
	1956	1957	1957	1956	1956	1954	1957	1957	1953	1957	1957	1959	1958	1958	1956	1958	1955	1956	1959	1958	1954	
Okhaldunga	23.9	-0.6	34.3	22.2	-0.8	21.8	25.0	4.2	25.4	28.9	5.8	29.0	29.2	5.6	113.8	29.2	8.9	79.5	27.6	5.6	143.5	
	1953	1953	1957	1956	1959	1954	1955	1957	1953	1954	1957	1955	1957	1953	1954	1958	1953	1957	1959	1953	1954	
Barakhshetra	27.2	7.2	48.4	31.7	8.4	5.6	36.7	11.7	126.2	42.2	17.0	42.0	41.9	19.2	72.4	38.9	21.7	155.2	34.4	22.8	179.8	
	1954	1955	1959	1954	1958	1954	1954	1957	1953	1954	1959	1959	1957	1958	1958	1958	1955	1959	1959	1956	1957	
Angbung	22.2	1.7	58.0	24.4	3.9	10.9	30.0	8.6	54.0	32.2	10.0	43.2	33.8	8.9	75.7	31.8	7.2	103.1	31.9	16.1	82.5	
	1957	1953	1959	1955	1953	1957	1953	1957	1959	1959	1957	1953	1957	1954	1953	1958	1954	1957	1959	1953	1957	
Taplejung	19.2	0	34.8	20.6	1.1	11.2	25.6	3.3	37.6	27.8	6.1	56.6	28.3	10.6	55.9	26.7	12.8	63.0	26.8	15.0	117.7	
	1957	..	1957	1956	1953	1953	1953	1957	1953	1957	1957	1954	1957	1958	1954	1958	1953	1954	1958	1956	1959	
Taplethok	28.3	0.6	44.7	28.3	3.3	22.9	31.0	5.0	38.3	32.2	8.3	37.6	32.4	11.7	56.4	32.1	15.2	82.0	32.8	15.6	78.2	
	1954	1957	1957	1954	1956	1957	1958	1956	1953	1953	1956	1958	1958	1956	1956	1958	1957	1959	1953	1956	1953	

*Data included under "Hill stations".

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station	
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Temperature	Rainfall		
Ganga Catchment																		
26.7	14.5	83.5	26.1	13.2	101.1	24.3	6.6	113.3	21.9	5.6	33.5	20.2	0.3	77.7	1956	1956	Mukhim.	
1957	1957	1958	1958	1957	1959	1957	1957	1956	1958	1959	1957	1957	1958	1957				
36.1	20.0	62.5	35.6	17.4	70.6	33.3	10.7	172.5	31.1	5.2	25.2	26.0	1.6	39.8	1956	1956	Tehri.	
1957	1956	1958	1956	1957	1957	1959	1959	1956	1956	1958	1959	1958	1959	1958				
Gandak Catchment																		
30.2	19.5	109.5	29.2	18.4	61.7	27.9	13.9	71.4	25.9	11.2	0.8	22.2	7.8	9.9	1957	1957	Gorkha.	
1957	1957	1957	1958	1958	1958	1957	1958	1958	1958	1958	1957	1958	1957	1957				
33.4	19.4	284.0	31.7	18.2	123.6	30.4	12.1	51.8	27.7	9.2	2.0	24.3	5.3	19.1	1957	1957	Pokhara.	
1957	1959	1957	1958	1958	1958	1958	1957	1958	1958	1958	1957	1958	1957	1957				
33.1	19.2	95.3	31.3	16.8	111.8	30.6	13.2	32.3	28.1	10.7	0	23.9	7.4	6.6	1957	1957	Nawakot.	
1957	1958	1957	1959	1957	1959	1957	1957	1958	1958	1959	..	1958	1959	1957				
26.8	12.3	13.5	26.8	5.6	7.1	24.3	..	35.3	..	..	0	..	..	0	1958	1958	Jomosom
1958	1958	1958	1959	1958	1959	1958	..	1958	..	..	..	..	..	..
28.4	15.4	31.7	30.0	13.2	28.5	27.2	7.3	30.2	23.3	3.3	2.0	20.1	0.1	2.0	1958	1958	Timure	
1959	1959	1959	1959	1959	1959	1959	1959	1958	1958	1959	1958	1959	1959	1958				
Gogra Catchment (Trans-Himalayan Region)																		
27.3	17.4	88.9	30.7	17.3	41.1	26.1	11.9	43.4	23.2	7.2	2.3	20.5	4.0	50.0	1957	1957	Dalekh.	
1959	1958	1959	1957	1959	1957	1959	1959	1958	1958	1959	1957	1957	1959	1957				
Gogra Catchment																		
26.8	13.5	73.9	25.8	11.9	78.5	25.4	6.1	109.7	22.4	5.6	18.9	21.3	0.8	86.6	1957	1957	Dandedhura.	
1957	1957	1958	1959	1957	1957	1959	1957	1958	1958	1957	1957	1957	1958	1957				
..	..	73.7	..	..	45.7	..	..	35.0	..	..	14.5	..	..	82.0	1957	1957	Munsiyari.
..	..	1958	..	..	1957	..	..	1958	..	..	1957	..	..	1957			
29.4	..	45.7	27.3	..	48.8	..	..	2.8	24.4	..	0	20.6	..	0	1957	1957	Sallyana.
1957	..	1957	1957	..	1957	..	..	1957	1957	..	..	1957	..	..		
36.8	22.9	157.5	37.8	22.1	130.0	33.9	17.2	112.0	30.7	11.8	0	27.2	6.2	3.8	1957	1957	Butwal.	
1957	1959	1957	1957	1959	1958	1959	1959	1958	1958	1959	..	1958	1958	1957				
Bagmati Catchment.																		
..	Katmandu. *
..	Koshi Catchment.
Chautara.																		
29.0	16.1	78.7	28.3	15.3	66.0	27.6	11.6	74.3	26.7	8.6	23.4	22.3	4.4	15.5	1955	1953	Chautara.	
1959	1956	1954	1956	1959	1954	1959	1959	1959	1958	1959	1956	1958	1955	1955				
29.4	15.0	107.2	28.3	10.6	65.5	27.2	7.2	35.1	22.8	5.6	19.8	21.7	2.2	6.1	1953	1953	Okhaldunga.	
1953	1955	1954	1954	1953	1955	1956	1953	1956	1954	1954	1956	1953	1955	1957				
36.7	22.2	149.1	34.4	21.1	100.2	33.9	14.9	136.1	30.6	10.6	29.5	28.3	8.9	3.3	1953	1953	Barakhshetra.	
1957	1956	1958	1958	1956	1959	1956	1957	1953	1953	1953	1956	1955	1954	1957				
32.6	15.0	68.0	31.3	16.7	63.3	30.4	12.1	63.3	25.6	7.9	1.3	24.4	5.4	7.1	1953	1953	Angbung.	
1957	1954	1959	1959	1953	1957	1957	1959	1957	1954	1959	1955	1953	1959	1957				
28.6	15.9	73.7	28.5	13.3	99.8	26.0	8.3	68.3	22.2	5.0	20.1	19.4	0.6	12.7	1953	1953	Taplejung.	
1957	1959	1953	1958	1956	1954	1959	1955	1956	1958	1953	1956	1957	1954	1955				
32.4	15.6	57.0	31.7	15.6	48.8	32.8	9.0	63.0	29.4	7.8	25.4	28.3	4.8	12.5	1953	1953	Taplethok.	
1958	1954	1959	1956	1959	1955	1956	1958	1955	1956	1956	1956	1956	1958	1957				

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I. S. T.

.. =Information not available.

TABLE III (A) EXTREMES OF MAXIMUM AND MINIMUM TEMPERATURES (°C) AND

Sub-division and station	January			February			March			April			May			June			July			
	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	
Koshi Catchment <i>(contd.)</i>																						
Wallungchung Gola	10.0	-7.8	30.5	12.2	-8.4	17.5	16.4	-6.6	18.9	18.3	-2.8	14.2	18.3	1.1	28.5	20.6	1.1	32.0	20.6	4.4	44.5	
	1953	1957	1956	1954	1959	1959	1959	1959	1959	1954	1954	1959	1954	1955	1955	1958	1956	1955	1953	1956	1954	
Bhojpur	17.3	1.4	35.0	21.1	3.9	3.8	25.6	5.9	39.9	29.4	8.7	27.2	29.7	11.2	61.2	28.9	14.8	57.1	26.3	16.1	56.6	
	1958	1957	1957	1956	1959	1959	1955	1957	1956	1955	1957	1959	1958	1959	1955	1958	1957	1957	1959	1956	1956	
Chainpur	22.8	3.1	36.8	26.7	5.0	6.3	30.0	8.8	43.2	32.5	9.3	34.3	34.3	13.3	57.1	31.8	15.6	45.2	30.6	16.7	71.0	
	1954	1957	1957	1954	1953	1954	1953	1957	1953	1957	1957	1953	1957	1955	1953	1958	1957	1957	1953	1954	1957	
Tista Catchment																						
Gangtok	19.3	-2.2	63.3	20.6	-1.1	24.1	23.8	4.1	61.0	24.6	5.6	178.1	25.6	11.3	109.7	25.7	12.7	92.9	26.3	14.4	94.6	
	1957	1956	1958	1956	1956	1959	1959	1957	1957	1959	1959	1956	1956	1957	1958	1958	1957	1958	1959	1956	1959	
Gyazing	19.1	1.1	50.8	21.1	3.1	11.2	27.9	2.1	42.6	29.1	7.3	92.5	29.4	13.1	43.4	28.9	13.6	89.0	29.8	14.9	164.8	
	1958	1957	1957	1957	1959	1958	1958	1957	1959	1958	1957	1958	1957	1958	1957	1958	1957	1958	1958	1958	1957	

X=Highest Maximum Temperature.

N = Lowest Minimum Temperature.

HEAVIEST RAINFALL (MILLIMETRES) IN 24 HOURS BASED ON DATA UPTO 1959 (1880-1881 SAKA)

August			September			October			November			December			Based on data from		Sub-division and station
X	N	R	X	N	R	X	N	R	X	N	R	X	N	R	Tempera- ture	Rainfall	
																	Koshi Catchment—(contd.)
19.6	4.4	55.1	19.4	4.4	28.7	18.3	0.6	36.8	15.6	3.9	15.7	14.4	7.1	5.3	1953	1953	Wallung Chung Gola.
1959	1953	1954	1953	1956	1955	1956	1953	1959	1955	1956	1956	1954	1959	1956			
29.6	15.9	78.0	26.9	15.0	52.6	26.1	10.6	36.2	23.1	8.1	22.9	19.9	4.4	4.6	1955	1955	Bhojpur.
1957	1957	1955	1958	1956	1955	1956	1957	1959	1958	1957	1956	1958	1955	1957			
31.7	17.2	69.9	31.1	15.0	45.7	28.9	11.7	67.2	26.8	8.3	0	25.6	6.1	8.9	1953	1953	Chainpur.
1953	1955	1955	1953	1953	1953	1955	1955	1955	1959	1953	..	1953	1955	1957			
																	Tista Catchment.
27.6	15.1	63.0	26.1	11.7	80.1	25.0	8.1	73.0	21.8	5.6	21.5	20.2	2.8	12.5	1956	1956	Gangtok.
1957	1958	1957	1956	1956	1959	1956	1957	1959	1958	1956	1958	1958	1956	1957			
32.2	16.3	74.7	30.0	15.0	115.3	28.1	10.1	40.8	24.4	6.3	18.2	21.4	4.1	7.6	1957	1957	Geyzing.
1957	1959	1958	1959	1959	1957	1959	1957	1959	1959	1959	1959	1959	1959	1957			

R=Heaviest Rainfall in 24 hours ending at 0830 hrs. I.S.T.

.. = Information not available.

MONTHLY MEANS OF UPPER WINDS

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

During the month, observations of velocity and direction of upper winds were made at 55 stations in India. Out of these, at 43 stations all the observations, were taken by means of pilot balloons and at 12 stations some observations were made by means of pilot balloons while the other observations by the radiowind method. Particulars of the stations, their co-ordinates and the approximate times of the regular pilot balloon and rawin ascents at each station are given in the Table overleaf. All radio-wind ascents have been indicated by means of an asterisk (*) against the scheduled hours.

Data from ascents made at the scheduled time or within two hours on either side of the scheduled times of regular observations have been used for averaging.

Data up to 9·0 km. a.m.s.l. are given under Table IV and data above 9·0 km. a.m.s.l. under Table V.

In Tables IV and V :

n—represents the number of observations,

V—represents the mean wind speed in metres per second irrespective of direction,

v— represents the resultant mean velocity in metres per second,

D—represents the direction of the resultant mean wind in degrees East of North.

Mean and resultant winds are given in this publication for the following heights :

Surface, 0·15 km. a.g., 0·3, 0·6, 0·9, 1·5, 2·1, 3·0, 3·6, 4·5, 5·4, 6·0, 7·2, 9·0, 10·5, 12·0, 14·1, 16·2, 18·0, 21·0, 24·0, 27·0, 30·0, 33·0 and 36·0 km. a.m.s.l. Of these the levels 1·5, 3·0, 5·4, 7·2, 9·0, 12·0, 14·1, and 16·2 km. a.m.s.l. are considered as the best approximations to the standard pressure levels 850, 700, 500, 400, 300, 200, 150 and 100 mb. respectively.

*Values obtained by converting the original data in knots.

PARTICULARS OF PILOT BALLOON AND RAWIN STATIONS IN INDIA

Station	Lat. N	Long. E	Height of Anemometer head a.m.s.l. in metres	Date of opening	Approximate times of flights (IST)		
Agartala	23°53'	91°15'	17	28th November, 1951	0530	1730	2330
Ahmedabad	23°04'	72°38'	61	19th May, 1928	0530	1730	2330
Amausi	26°45'	80°53'	132	20th November, 1950	0530	1730	2330
Ambala	30°23'	76°46'	279	1st April, 1941	0530	1730	2330
Amritsar	31°38'	74°52'	243	21st June, 1957	0530*	1730*	
Anantapur	14°41'	77°37'	364	12th February, 1946	0530	1730	2330
Asansol	23°41'	86°59'	135	29th May, 1942	0530	1730	2330
Baghdogra	26°38'	88°19'	140	7th June, 1953	0530	1730	2330
Bairagarh	23°17'	77°21'	532	26th February, 1943	0530	1730	2330
Bajpe	12°55'	74°53'	104	25th May, 1959	0530	1730	2330
Bamrauli	25°27'	81°44'	103	28th February, 1930	0530*	1130	1730* 2330
Bangalore	12°58'	77°35'	936	19th May, 1915	0530	1730	2330
Barcilly	28°22'	79°24'	180	12th January, 1943	0530	1730	
Begumpet	17°27'	78°28'	543	1st September, 1929	0530	1730	2330
Bhagalpur	25°14'	86°57'	61	19th May, 1950	0530	1730	
Bhubaneshwar	20°15'	85°50'	54	5th December, 1942	0530	1730	2330
Bhuj	23°15'	69°48'	90	14th September, 1937	0530	1730	2330
Bikaner	28°00'	73°18'	229	18th October, 1946	0530	1730	2330
Chikalthana	19°51'	75°24'	583	7th October, 1951	0530	1730	2330
Cochin	09°56'	76°14'	13	16th March, 1942	0530	1730	2330
Darjeeling	27°03'	88°16'	2115	21st May, 1956	0530	1730	
Dehra Dun	30°19'	78°03'	692	1st October, 1958	0530	1730	
Dum Dum	22°39'	88°27'	13	14th May, 1921	0530*	1130	1730* 2330
Gadag	15°25'	75°38'	650	3rd May, 1943	0530	1730	2330
Gannavaram	16°32'	80°48'	32	8th April, 1942	0530	1730	2330
Gauhati	26°05'	91°43'	51	12th March, 1955	0530*	1130	1730* 2330
Gaya	24°45'	84°57'	119	19th March, 1937	0530	1730	2330
Gopalpur	19°16'	84°53'	24	15th February, 1945	0530	1730	2330
Gorakhpur	26°45'	83°22'	83	5th January, 1943	0530	1730	
Gwalior	26°14'	78°15'	208	7th May, 1938	0530	1730	2330
Imphal	24°51'	93°58'	805	8th March, 1952	0530	1730	2330
Jabalpur	23°10'	79°57'	402	30th July, 1928	0530	1730	2330
Jagdalpur	19°05'	82°02'	562	25th March, 1948	0530	1730	2330
Jaipur	26°49'	75°48'	404	6th June, 1953	0530	1730	2330
Jamshedpur	22°49'	86°11'	147	23rd July, 1942	0530	1730	
Jharsuguda	21°55'	84°05'	240	1st May, 1944	0530	1730	2330
Jodhpur	26°18'	73°01'	229	15th October, 1934	0530*	1130	1730* 2330
Madras	13°00'	80°11'	29	8th April, 1926	0530*	1130	1730* 2330
Minicoy	08°18'	73°00'	16	14th April, 1941	0530	1730	2330
Mohanbari	27°29'	95°01'	112	1st June, 1948	0530	1730	2330
Nagpur	21°06'	79°03'	316	23rd April, 1943	0530*	1130	1730* 2330
Nanpara	27°50'	81°30'	142	23rd April, 1957	0530	1730	
New Delhi	28°35'	77°12'	227	20th October, 1936	0530*	1130	1730* 2330
Poona	18°32'	73°51'	593	5th January, 1925	0530	1730	2330
Port Blair	11°40'	92°43'	93	29th October, 1945	0530*	1130	1730* 2330
Raipur	21°14'	81°39'	308	15th July, 1944	0530	1730	2330
Raxaul	26°59'	84°51'	83	28th October, 1957	0530	1730	
Santa Cruz	19°07'	72°51'	27	14th May, 1933	0530*	1130	1730* 2330
Tezpur	26°37'	92°47'	79	12th August, 1932	0530	1730	2330
Tiruchirapalli	10°46'	78°43'	96	22nd June, 1936	0530	1730	2330
Trivandrum	08°29'	76°57'	73	8th December, 1928	0530*	1130	1730* 2330
Udaipur	24°35'	75°42'	587	24th June, 1947	0530	1730	2330
Vengurla	15°51'	75°38'	8	22nd November, 1941	0530	1730	2330
Veraval	20°54'	70°22'	17	13th October, 1941	0530*	1130	1730* 2330
Visakhapatnam	17°43'	83°14'	10	24th September, 1928	0530	1730	2330

*Radiowind ascents.
Naval Meteorological Office.

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	AMRITSAR								ANANTAPUR												ASANSOL											
	0530*				1730*				0530				1730				2330				0530											
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.8	309	31	1.5	1.0	330	31	0.8	0.8	089	31	3.5	3.3	085	31	2.7	2.5	103	31	1.1	1.0	292								
0.15 a.g.	22	1.2	1.1	316	27	1.7	1.1	337	31	4.3	4.1	104	31	5.7	5.3	086	31	6.8	6.6	110	31	4.9	4.1	329								
0.3 a.m.s.l.	22	1.2	1.1	316	26	1.7	1.0	330													31	4.9	3.9	333								
0.6 "	21	5.0	4.3	321	26	4.8	3.2	310	31	5.0	4.8	106	31	5.7	5.3	086	31	7.2	6.9	108	31	5.4	4.3	338								
0.9 "	21	4.3	3.8	308	26	4.2	2.2	306	31	6.5	6.1	094	31	6.1	5.8	085	31	6.4	6.2	097	31	6.0	4.9	331								
1.5 "	22	4.2	3.5	304	26	4.5	2.2	277	31	7.3	6.4	066	31	5.8	5.6	081	31	5.9	5.2	121	31	6.7	5.7	312								
2.1 "	22	4.4	3.0	302	26	5.1	0.7	243	30	6.7	5.5	074	31	6.1	5.3	075	31	6.4	5.2	070	30	7.7	5.2	308								
3.0 "	22	5.8	4.6	278	26	6.0	3.2	243	30	6.1	5.2	081	30	6.4	5.8	069	31	6.3	5.5	075	15	8.8	8.6	286								
3.6 "	22	7.8	6.5	273	26	7.5	4.9	250	28	5.5	4.8	080	29	6.2	4.8	076	29	5.5	4.3	087	8	10.7	10.5	283								
4.5 "	22	11.0	9.8	277	26	10.9	8.5	263	19	7.8	4.6	080	27	5.7	3.9	066	24	5.1	3.5	086												
5.4 "	22	14.6	12.9	273	25	15.3	12.6	262	10	5.1	1.4	158	27	5.5	2.6	077	17	4.8	2.3	128												
6.0 "	22	17.7	15.9	272	25	17.2	14.6	264	4	4.7	1.5	206	26	5.7	2.3	096	3	5.1	5.0	110												
7.2 "	22	24.2	21.8	270	25	22.8	21.3	264	1	3.1	3.1	235	17	6.7	1.7	153																
9.0 "	17	35.0	33.0	267	18	35.3	32.4	265					9	11.1	7.4	223																

Station	ASANSOL								BAGHDODGRA												BAIRAGARH							
	1730				2330				0530				1730				2330				0530							
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.5	0.4	311	31	1.0	0.8	315	31	1.1	0.9	015	31	1.4	1.2	261	31	1.4	1.1	355	31	1.8	1.0	079				
0.15 a.g.	31	4.0	3.2	327	31	5.9	4.4	348	31	2.4	1.9	064	31	3.1	6.2	243	31	2.2	0.8	310	31	5.3	3.0	098				
0.3 a.m.s.l.	31	4.0	3.2	326	31	6.2	4.6	345	31	2.6	2.0	067	31	3.0	2.3	241	31	2.2	0.7	294								
0.6 "	31	4.1	3.5	329	31	5.1	4.1	334	31	2.1	1.6	080	31	2.4	1.8	247	31	2.2	1.3	270	31	5.2	3.1	096				
0.9 "	31	4.4	3.8	323	31	4.9	3.8	311	31	2.1	2.0	084	31	1.8	1.2	245	31	1.9	0.5	288	31	3.7	0.8	285				
1.5 "	31	6.4	6.0	316	31	6.4	5.8	311	31	3.2	2.6	087	31	1.7	0.6	083	31	3.0	1.6	089	31	4.3	2.8	283				
2.1 "	31	9.0	8.4	307	30	8.9	8.4	307	30	4.1	2.1	097	28	2.9	0.9	073	29	4.1	2.6	085	31	6.2	4.7	294				
3.0 "	18	9.0	8.3	291	23	10.0	9.4	285	23	7.8	3.0	093	25	8.0	5.8	280	21	7.8	4.2	287	31	7.9	7.2	285				
3.6 "	7	9.3	8.6	276	13	10.7	9.8	275	12	10.1	5.1	305	10	13.8	12.8	278	11	12.7	8.5	278	15	7.8	7.3	282				
4.5 "	2	11.1	9.7	255	4	6.3	6.0	252	4	20.7	20.7	281					3	16.1	16.0	268	2	9.8	9.6	289				
5.4 "					1	6.2	6.2	275	3	23.5	23.5	277					1	20.1	20.1	250								
6.0 "																	1	32.3	32.3	249								
7.2 "																												
9.0 "																												

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	BAIRAGARH								BAJPE								BAMRAULI											
	1730				2330				0530				1730				2330				0530*							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.5	0.9	035	31	1.8	0.9	063	31	2.5	2.4	093	31	3.3	3.0	296	31	1.5	1.0	026	31	0.7	0.6	274				
0.15 a.g.	31	2.7	1.7	032	31	5.0	3.0	073	31	4.6	4.0	097	31	4.5	4.1	281	31	3.5	2.3	347	31	4.3	3.4	307				
0.3 a.m.s.l.									31	4.7	3.9	097	30	4.3	3.7	281	31	3.7	2.4	345	31	4.3	3.4	307				
0.6 "	31	2.5	1.6	033	31	5.0	3.1	073	31	1.8	4.1	097	30	2.9	1.4	359	31	3.8	2.0	006	30	4.7	4.1	319				
0.9 "	31	2.9	1.9	029	31	4.0	2.4	075	31	5.0	4.7	099	30	3.3	2.6	065	31	4.1	2.7	061	30	6.0	5.1	318				
1.5 "	31	3.0	1.6	315	31	3.0	1.1	286	30	6.2	5.3	087	30	7.4	7.3	083	31	6.6	6.3	084	30	8.9	8.0	317				
2.1 "	31	5.8	4.3	294	31	5.6	3.3	283	29	6.3	5.5	066	30	9.3	9.1	080	28	8.5	7.8	088	30	9.3	8.4	308				
3.0 "	31	9.0	7.9	284	31	7.7	5.9	278	25	6.6	6.1	082	26	7.9	7.1	077	26	8.1	7.3	083	31	10.0	9.1	295				
3.6 "	31	11.4	9.9	280	9	7.3	6.7	278	15	6.9	5.9	092	26	7.6	6.6	075	15	6.6	5.9	086	31	11.7	10.5	276				
4.5 "	29	13.4	12.4	279	4	10.1	9.7	277	3	7.1	5.5	067	20	8.0	7.1	085	3	3.4	1.6	159	31	14.8	14.2	275				
5.4 "	25	15.5	14.1	274					1	7.2	7.2	050	16	5.5	4.6	075	1	1.5	1.5	265	30	17.8	16.7	276				
6.0 "	21	16.5	15.0	268					1	6.7	6.7	050	16	5.5	4.5	080	1	3.6	3.6	245	30	19.7	18.5	272				
7.2 "	14	17.5	16.9	258									11	5.1	3.6	121					26	26.8	25.4	275				
9.0 "	2	20.8	20.7	299									1	9.8	9.8	300					25	33.6	21.5	263				

Station	BAMRAULI								BANGALORE																			
	1130				1730*				2330				0530				1730				2330							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.2	0.7	277	31	1.5	1.2	305	31	0.5	0.2	288	31	3.7	3.4	081	31	4.5	4.2	091	31	4.4	4.1	087				
0.15 a.g.	31	2.1	1.0	278	30	6.0	4.9	301	30	5.1	2.9	315	29	6.7	6.1	072	30	6.2	5.8	089	26	7.7	7.2	087				
0.3 a.m.s.l.	31	1.9	1.4	295	30	6.0	4.9	301	30	5.1	2.5	296																
0.6 "	31	4.1	3.4	315	30	4.8	3.7	303	30	5.6	3.8	311																
0.9 "	31	6.3	5.2	311	30	5.6	4.7	310	31	6.3	4.7	304																
1.5 "	31	8.4	7.5	313	30	7.5	6.8	305	30	7.1	6.3	308	18	9.3	8.6	071	30	6.1	5.8	083	26	7.5	7.1	073				
2.1 "	31	8.5	7.8	308	30	9.1	6.5	299	29	8.0	7.3	305	18	8.7	7.9	077	29	6.3	5.9	073	25	7.8	7.2	068				
3.0 "	30	10.0	9.7	297	30	11.0	10.5	292	18	8.5	7.1	291	17	7.4	6.5	081	25	7.2	6.3	070	23	7.5	6.9	075				
3.6 "	30	10.7	10.1	286	30	12.1	11.6	288	4	9.1	8.6	271	12	7.0	6.0	082	22	6.6	5.3	164	21	8.2	6.6	071				
4.5 "	30	14.0	12.7	279	30	15.4	14.8	279					7	5.6	4.8	096	21	6.6	5.6	066	14	5.9	5.0	082				
5.4 "	28	17.3	16.3	271	30	18.4	17.7	272					3	3.8	3.5	144	18	6.2	3.9	079	5	4.3	3.7	127				
6.0 "	25	18.2	17.9	267	30	20.8	19.9	270					2	3.9	3.3	119	18	6.5	3.7	093	4	4.9	2.5	123				
7.2 "	21	22.3	21.5	263	30	25.1	24.6	261									15	6.7	1.4	081								
9.2 "	9	25.8	24.4	267	29	31.4	30.3	260									13	6.9	4.7	222								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	BHUIJ				BIKANER								CHIKALTHANA															
	2330				0530				1730				2330				0530				1730							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.9	0.8	360	31	0.6	0.4	358	31	0.8	0.7	291	31	1.3	1.3	008	31	0.6	0.5	089	31	1.2	0.9	077				
0.15 a.g.	31	5.7	4.7	015	31	5.4	2.5	050	31	3.3	2.4	275	31	6.2	3.3	027	31	5.4	4.9	100	31	2.9	1.6	094				
0.3 a.m.s.l.	31	6.0	5.2	021	31	4.7	2.4	065	31	3.0	2.2	276	31	5.3	4.0	025												
0.6 „	31	5.6	4.9	033	31	4.6	1.7	013	31	3.4	2.3	277	31	5.0	2.9	035												
0.9 „	31	5.1	3.9	049	31	4.2	1.7	326	31	3.4	2.1	278	30	3.8	1.0	058	31	6.3	5.9	112	31	2.9	1.7	084				
1.5 „	31	4.4	0.8	171	30	4.4	2.6	297	31	4.3	1.4	303	30	4.2	1.2	239	31	3.9	2.0	108	31	2.8	1.4	045				
2.1 „	31	5.8	3.2	257	30	5.5	3.5	277	31	6.3	3.7	277	30	5.6	3.4	255	31	4.4	0.8	312	31	3.9	1.6	018				
3.0 „	30	7.5	5.5	259	29	8.7	7.4	274	30	8.9	7.2	264	28	8.9	6.9	258	31	4.7	2.5	302	31	4.8	2.1	298				
3.6 „	17	9.9	7.9	257	20	10.0	9.0	273	30	10.4	9.5	261	19	10.0	9.1	273	15	4.1	2.6	287	30	5.6	3.9	274				
4.5 „	5	11.1	9.7	247	8	11.5	10.9	273	27	13.4	12.4	275	7	16.5	16.3	273					28	7.3	5.3	279				
5.4 „					1	9.3	9.3	265	26	18.0	16.0	275	1	13.4	13.4	270					26	8.7	6.4	275				
6.0 „									22	20.3	19.6	274									26	9.7	7.4	268				
7.2 „									10	21.8	21.5	273									11	13.1	12.5	247				
9.0 „									3	34.9	34.5	257																
Station	CHIKALTHANA				COCHIN								DARJEELING															
Time in I. S. T.	2330				0530				1730				2330				0830				1730							
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.5	0.3	097	31	1.4	1.3	055	31	2.8	2.2	269	31	1.0	0.9	055	31	0.3	0.1	115	31	0.5	0.5	247				
0.15 a.g.	31	5.7	4.9	075	31	4.1	3.2	076	30	3.5	2.6	280	28	3.0	1.4	100	24	1.3	0.2	090	14	1.3	0.5	226				
0.3 a.m.s.l.					31	3.4	2.7	081	30	3.5	2.5	298	28	2.5	1.0	075												
0.6 „					31	3.0	2.0	086	30	3.2	2.4	010	28	3.1	2.4	103												
0.9 „	31	6.3	5.6	083	31	3.3	2.3	081	30	3.9	3.3	050	28	3.8	3.4	105												
1.5 „	31	4.5	3.9	096	31	4.2	3.0	088	29	5.2	4.7	080	28	4.3	3.6	082												
2.1 „	31	3.7	0.7	118	30	4.8	3.8	092	29	6.5	5.5	083	26	5.2	4.1	074												
3.0 „	31	4.9	2.3	289	28	6.4	4.8	091	29	6.5	4.4	082	25	7.2	5.8	086	23	3.2	1.5	275	13	3.9	2.2	328				
3.6 „	21	5.1	3.9	281	22	7.0	5.7	085	29	6.0	4.4	074	19	7.0	6.0	088	22	12.0	11.3	281	11	15.9	11.2	291				
4.5 „	8	5.3	4.4	265	16	7.4	6.6	088	24	6.6	5.6	088	8	7.9	7.3	094	21	18.7	16.4	079	3	23.2	22.9	278				
5.4 „					10	7.5	6.6	081	23	6.8	6.0	099	2	3.6	3.6	084	9	16.1	15.4	272								
6.0 „					8	7.5	6.0	082	20	7.2	6.0	096	1	9.3	9.3	060	7	19.7	19.3	270								
7.2 „					3	8.4	5.3	085	15	6.0	4.8	109					2	26.0	26.0	278								
9.0 „					2	8.2	8.2	105	14	6.4	4.8	147																

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	DEHRA DUN								DUM DUM																							
	0530				1730				0530*				1130				1730*				2330											
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D				
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.0	0.7	005	31	0.8	0.6	261	31	0.1	0.1	360	31	1.9	1.6	315	31	1.1	1.0	338	31	0.2	0.1	293								
0.15 a.g.	31	1.4	1.0	046	31	3.1	2.1	273	31	4.8	4.2	360	30	3.1	2.5	346	31	3.6	2.7	327	31	4.6	3.4	352								
0.3 a.m.s.l.									31	4.8	4.4	355	30	3.5	3.0	343	31	3.2	2.6	333	31	4.4	3.4	355								
0.6 "									31	4.6	4.0	351	30	3.9	3.4	348	31	3.1	2.7	338	31	4.2	3.4	353								
0.9 "	31	1.3	0.6	052	31	2.7	1.9	271	31	4.5	3.8	352	30	4.6	4.2	342	31	3.8	3.5	339	31	4.2	3.5	340								
1.5 "	31	2.4	1.9	285	31	2.1	1.1	320	31	4.9	4.0	325	29	5.9	5.2	318	31	4.9	4.3	314	31	5.5	5.0	321								
2.1 "	31	3.4	2.0	300	31	3.1	2.0	297	31	6.2	5.0	300	29	7.9	6.9	300	31	6.7	6.0	299	31	6.7	5.8	302								
3.0 "	31	4.7	1.1	318	30	4.8	2.4	280	31	5.5	5.3	276	30	9.8	9.3	285	31	7.7	7.3	281	25	7.7	6.8	285								
3.6 "	27	6.0	2.9	276	29	5.7	2.7	273	31	8.5	8.1	273	30	10.2	9.9	277	31	8.0	7.7	278	12	7.9	7.6	284								
4.5 "	6	7.8	6.9	276	26	9.3	7.1	278	31	9.4	8.6	272	29	12.0	11.6	276	31	10.5	10.0	272	4	5.4	5.3	268								
5.4 "	1	9.3	9.3	280	21	15.2	13.0	271	31	11.3	11.1	268	27	13.9	12.9	276	31	11.0	10.0	268	1	10.3	10.3	260								
6.0 "					17	18.7	16.6	273	30	13.1	12.1	263	25	14.8	13.9	271	31	12.7	9.0	261												
7.2 "					6	26.0	25.0	289	30	17.3	16.0	260	17	18.9	16.1	264	31	14.6	13.8	259												
9.0 "									28	22.1	21.2	256	3	22.7	20.0	242	28	19.8	19.0	259												

Station	GADAG												GANNAVARAM															
	0530				1730				2330				0530				1730				2330							
Time in I. S. T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	3.9	3.4	096	31	4.2	4.0	083	31	4.6	4.5	092	31	2.2	1.1	050	31	2.7	2.1	095	31	1.9	1.6	078				
0.15 a.g.	31	8.0	7.5	102	31	6.2	6.0	078	31	9.9	9.3	037	31	4.6	4.4	076	31	3.7	3.0	097	31	5.7	5.1	100				
0.3 a.m.s.l.													31	4.6	4.4	086	31	3.8	3.1	088	31	6.1	5.6	098				
0.6 "													31	4.6	4.1	079	31	3.6	3.1	067	31	4.7	4.2	080				
0.9 "	31	8.5	8.1	096	31	6.7	6.4	080	31	9.9	9.3	085	29	4.6	3.9	058	31	3.9	3.3	043	31	4.0	2.8	056				
1.5 "	30	8.9	7.9	077	31	6.8	6.5	078	31	9.1	8.5	080	28	6.1	5.1	049	29	5.1	4.5	037	29	5.8	4.6	043				
2.1 "	30	7.8	6.8	075	30	6.5	5.8	075	31	8.3	7.3	072	27	5.5	4.5	053	28	6.0	5.1	042	28	5.7	4.4	053				
3.0 "	29	7.5	6.7	083	28	6.3	5.5	074	27	7.2	6.2	078	27	5.2	4.1	044	27	6.0	4.6	038	28	5.0	3.7	057				
3.6 "	22	6.1	5.2	082	24	6.6	5.8	064	23	6.6	5.5	081	19	4.9	3.9	050	27	5.9	4.7	035	23	5.6	3.7	043				
4.5 "	9	4.8	2.0	199	20	6.9	5.6	069	10	5.0	2.4	101	15	5.1	1.6	053	27	5.5	3.0	034	16	4.9	2.3	024				
5.4 "	5	2.7	1.0	280	17	6.4	3.8	067	5	4.5	2.9	277	12	5.4	0.5	003	25	5.3	1.3	010	13	4.2	0.7	035				
6.0 "	4	3.2	1.4	263	16	6.5	3.0	068	3	4.1	3.5	253	10	6.0	2.1	301	21	5.7	0.9	021	10	5.3	0.9	280				
7.2 "	1	6.2	6.2	215	12	6.0	2.1	246	1	4.1	4.1	115	4	8.6	5.4	212	15	6.6	1.5	242	2	4.9	4.9	235				
9.0 "					8	10.3	6.3	248					1	1.5	1.5	270	13	10.1	6.3	233								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	GWALIOR												IMPHAL															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.0	0.1	284	31	0.9	0.7	021	31	0.3	0.1	226	C	A	L	M	31	1.7	1.2	293	31	0.3	0.1	272				
0.15 a.g.	31	4.5	1.7	341	31	3.9	2.6	010	31	4.2	1.8	043	27	1.0	0.3	191	31	2.5	2.0	245	31	1.1	0.1	293				
0.3 a.m.s.l.	31	3.5	1.2	330	31	3.3	2.2	014	31	3.4	1.2	039																
0.6 „	31	4.5	2.1	344	31	4.0	2.3	351	31	4.2	1.7	008																
0.9 „	31	4.3	2.5	314	31	3.9	2.4	327	31	4.0	2.0	33	27	1.0	0.4	203	31	2.6	2.0	258	31	1.1	0.0	202				
1.5 „	31	6.2	4.5	296	31	4.9	3.9	294	31	5.9	4.3	290	27	2.0	1.2	122	31	2.4	1.3	213	31	1.8	0.9	222				
2.1 „	31	7.6	6.8	292	31	7.4	6.3	287	31	6.4	5.5	291	24	4.0	2.3	213	31	4.9	4.7	238	30	4.2	3.9	234				
3.0 „	31	9.8	9.0	281	31	19.4	9.7	285	31	8.5	8.0	280	20	9.3	8.6	259	31	11.4	11.1	264	30	10.1	9.2	262				
3.6 „	29	10.8	10.1	279	30	12.6	11.9	285	23	9.1	8.5	278	17	13.2	12.9	269	22	15.2	15.0	275	13	12.1	12.0	271				
4.5 „	12	10.8	10.2	276	23	14.7	13.3	280					11	13.9	13.4	269	3	13.4	13.2	271	2	17.0	17.0	282				
5.4 „	3	14.9	14.8	253	20	17.5	16.7	287					8	14.7	14.4	271					1	20.1	20.1	270				
6.0 „	1	23.0	23.0	250	17	18.7	17.0	278					6	15.6	15.4	275					1	22.7	22.7	270				
7.2 „	1	29.8	29.8	260	8	26.1	25.5	280																				
9.0 „					1	22.1	22.1	265																				

Station	JABALPUR												JAGDALPUR															
	0530				1730				2330				0530				1730				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.0	0.8	128	31	1.3	0.8	022	31	0.5	0.3	067	C	A	L	M	31	0.9	0.8	041	31	0.1	0.1	135				
0.15 a.g.	31	3.8	2.0	076	31	3.1	2.5	018	31	4.3	3.1	053	31	3.7	2.9	043	31	4.6	3.7	039	31	4.9	3.7	062				
0.3 a.s.l.																												
0.6 „	31	4.4	2.4	068	31	3.2	2.5	014	31	4.5	3.3	043	31	2.1	1.5	024	31	3.1	2.5	040	31	3.0	2.2	065				
0.9 „	31	4.5	3.2	027	31	3.7	2.7	005	31	4.6	3.3	028	30	4.6	4.0	044	31	4.6	3.9	031	31	5.2	4.0	051				
1.5 „	31	6.0	4.1	336	31	4.6	3.2	337	31	4.5	2.8	331	30	5.2	3.8	025	30	3.9	3.3	018	30	4.5	3.1	022				
2.1 „	31	7.5	5.9	316	31	6.7	5.1	313	31	6.6	4.8	305	29	5.7	4.0	001	30	5.3	3.0	353	29	6.0	3.5	354				
3.0 „	31	8.3	6.9	295	30	9.5	6.0	289	30	9.0	7.7	297	26	5.3	3.1	341	30	7.4	5.1	341	27	6.3	3.2	335				
3.6 „	28	9.6	8.9	289	30	11.2	10.0	292	22	8.9	8.3	293	12	4.6	2.2	307	29	7.7	5.4	333	20	5.4	1.3	557				
4.5 „	23	9.4	8.6	286	28	12.3	11.5	283	5	11.9	11.6	280	2	6.2	3.5	319	26	7.6	5.6	294	6	5.3	1.5	333				
5.4 „	8	9.4	8.9	270	26	13.8	12.9	277									15	8.3	5.5	287	1	11.3	11.3	330				
6.0 „	6	9.9	8.9	272	23	15.5	13.9	277									13	10.0	6.5	286	1	9.8	9.8	305				
7.2 „					13	18.8	17.2	269									2	6.2	4.6	260								
9.0 „					4	21.6	21.1	258									1	4.6	4.6	170								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	JAIPUR												JAMSHEDPUR								JHARSUGUDA							
	0530				1730				2330				0530				1730				0530							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	1.6	1.1	042	31	1.5	0.3	296	31	1.5	0.9	027	31	1.0	0.9	288	31	1.0	0.4	328	31	1.7	1.7	017				
0.15 a.g.	31	3.5	2.3	065	31	3.5	0.4	315	31	4.7	2.1	064	31	3.5	3.1	306	31	2.5	1.5	340	31	4.4	3.9	039				
0.3 a.m. s.l.													31	3.5	3.0	324	31	2.6	1.7	341	31	4.4	4.2	030				
0.6 "	31	5.3	2.1	045	31	3.4	0.8	305	31	4.9	1.7	071	31	4.4	3.6	343	31	3.2	2.3	337	31	4.4	3.2	025				
0.9 "	31	4.6	1.2	295	31	3.3	1.3	309	31	3.8	0.7	099	31	4.8	3.9	335	31	4.0	3.1	332	31	4.6	3.5	008				
1.5 "	31	5.8	3.8	267	31	4.4	3.0	301	31	4.5	1.4	248	31	6.4	5.6	323	31	6.8	6.3	321	31	5.9	4.7	341				
2.1 "	31	7.4	5.7	275	30	6.6	5.5	281	31	6.7	4.7	257	31	7.4	6.0	313	31	8.9	8.1	318	30	7.3	5.8	323				
3.0 "	31	9.9	8.5	277	30	9.4	2.7	276	30	8.6	8.0	265	28	8.9	7.0	288	25	9.0	8.0	291	26	8.1	7.3	288				
3.6 "	26	11.8	10.3	275	27	12.0	10.9	278	28	11.3	6.4	265	14	9.7	9.0	276	13	8.1	6.7	285	20	7.6	6.8	285				
4.5 "	9	14.8	14.3	289	21	15.4	14.3	279	15	11.5	10.5	283	3	12.9	12.2	263	5	6.0	5.7	261	1	4.6	4.6	290				
5.4 "					14	19.4	18.4	276	7	17.5	17.2	276					2	4.4	4.3	267	1	8.7	8.7	265				
6.0 "					8	26.3	24.8	280	2	23.7	23.2	282																
7.2 "					4	29.8	28.1	302																				
9.0 "					1	39.5	39.5	290																				

Station	JHARSUGUDA								JODHPUR																			
	1730				2330				0530*				1130				1730*				2330							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	0.9	0.3	208	31	0.9	0.6	003	31	2.1	2.1	025	31	1.9	1.5	055	31	1.6	0.9	035	31	2.7	2.3	020				
0.15 a.g.	31	2.7	0.8	217	31	3.9	1.3	022	31	2.8	2.4	025	31	2.9	1.7	054	31	2.4	1.1	020	31	6.5	5.0	033				
0.3 a.m. s.l.	31	2.8	0.9	214	31	2.9	1.0	011	31	2.6	2.1	020	31	2.6	1.6	049	31	2.1	1.1	025	31	5.7	4.9	033				
0.6 "	31	2.2	0.9	312	31	3.9	1.9	350	31	4.7	2.9	042	31	3.4	1.9	056	31	3.4	1.6	015	31	5.8	3.7	046				
0.9 "	31	3.0	2.1	332	31	3.7	2.1	354	31	4.6	0.8	006	31	3.5	1.2	059	31	3.9	1.1	190	31	4.8	2.0	067				
1.5 "	31	6.0	5.3	345	31	4.8	3.5	358	31	5.7	3.2	270	31	4.4	1.5	252	31	4.4	1.3	280	31	4.6	1.0	187				
2.1 "	30	7.6	6.5	325	31	6.9	5.6	328	31	6.1	5.0	270	31	6.1	4.5	245	31	6.5	4.3	271	30	5.6	3.9	252				
3.0 "	29	7.9	6.9	301	30	8.3	6.8	304	31	10.5	9.4	269	31	10.8	9.5	257	30	10.5	9.3	270	24	8.6	7.2	268				
3.6 "	27	8.7	7.7	291	26	8.1	7.0	288	31	13.1	11.8	270	31	13.9	12.6	262	30	12.7	11.5	269	5	12.0	11.1	274				
4.5 "	21	9.3	8.4	284					30	16.7	15.5	270	29	16.4	15.5	269	30	16.5	14.9	270	1	26.7	26.7	285				
5.4 "									29	19.7	18.5	270	23	18.5	17.0	270	30	19.7	18.2	274								
6.0 "									29	23.2	22.0	267	21	19.8	18.7	275	29	22.0	20.2	265								
7.2 "									30	28.7	27.1	265	16	23.4	21.6	266	29	27.0	25.1	260								
9.0 "									29	35.9	33.5	263	5	30.4	29.9	247	28	34.7	33.4	260								

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	MADRAS												MINICOY															
	0530*				1130				1730*				2330				0530				1730							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.3	1.9	018	31	4.5	3.9	022	31	4.5	4.1	048	31	2.6	2.4	003	31	2.1	1.2	050	31	2.3	1.7	050				
0.15 a.g.	31	6.8	6.5	048	31	5.9	5.5	034	31	8.5	8.0	055	31	6.4	6.1	032	31	3.8	8.1	050	31	4.1	3.0	050				
0.3 a.m. s.l.	31	6.7	6.5	050	31	6.5	6.1	033	31	7.8	7.3	052	31	7.1	6.8	038	31	4.0	2.1	059	31	4.6	3.5	054				
0.6 "	31	6.4	6.1	048	30	7.0	6.6	037	31	6.5	6.0	041	31	6.9	6.8	044	31	4.4	2.6	074	31	4.6	3.5	059				
0.9 "	31	6.7	6.1	049	30	6.8	6.4	044	31	6.2	5.6	048	31	6.8	6.4	050	31	5.2	3.6	084	31	5.1	3.9	073				
1.5 "	31	7.5	6.6	063	21	7.2	6.4	061	31	6.5	5.1	060	29	6.5	5.8	061	31	5.9	4.2	091	31	5.5	3.9	088				
2.1 "	31	7.6	6.8	078	13	8.4	6.6	065	31	6.5	5.7	070	27	6.7	6.1	067	31	5.9	4.2	095	31	5.4	3.7	085				
3.0 "	31	7.1	5.9	083	8	8.2	6.0	083	31	6.4	5.5	073	20	6.7	5.7	073	30	6.3	4.7	092	31	6.0	4.5	078				
3.6 "	29	7.0	6.0	084	6	6.0	3.7	080	30	6.9	5.1	073	10	6.3	5.3	076	16	5.8	5.0	094	30	6.5	5.0	083				
4.5 "	28	7.1	6.1	082	3	6.8	4.8	059	30	6.7	5.7	079	7	5.5	4.6	074	1	4.1	4.1	095	27	6.6	5.1	085				
5.4 "	28	8.8	3.7	104	3	5.0	3.9	056	30	5.5	3.9	087	2	6.9	6.8	083					24	6.0	4.7	084				
6.0 "	28	7.4	5.2	094	3	7.4	5.9	049	31	6.1	3.5	290									24	6.0	4.6	082				
7.2 "	28	6.5	3.7	100	3	4.3	1.6	090	27	6.1	4.0	110									17	7.4	4.0	090				
9.0 "	22	6.4	0.3	224	3	6.5	2.7	224	25	7.1	2.1	189									15	7.8	4.8	115				

Station	MINICOY				MOHANBARI								NAGPUR															
	2330				0530				1730				2330				0530*				1130							
Time in I.S.T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface	31	2.2	1.6	052	31	0.1	0.1	045	31	0.1	0.1	360	C	A	L	M	31	0.6	0.5	353	31	1.4	1.2	053				
0.15 a.g.	31	4.0	3.1	054	26	3.7	3.3	047	31	1.7	1.4	031	31	2.3	1.9	027	31	4.6	3.8	049	31	2.2	1.6	061				
0.3 a.m. s.l.	31	4.0	3.2	055	26	3.5	3.2	043	31	1.6	1.4	035	31	2.1	1.5	031												
0.6 "	31	4.5	3.7	068	26	2.6	2.5	038	31	1.7	1.4	046	31	1.8	1.5	049	31	4.4	3.4	053	31	2.8	2.1	073				
0.9 "	31	5.0	4.1	080	26	2.7	2.5	035	31	2.0	1.5	052	31	2.4	2.2	061	31	4.3	2.8	063	29	3.8	2.2	049				
1.5 "	31	5.6	4.5	080	26	2.8	1.7	063	31	2.4	1.4	082	31	2.6	1.5	072	31	4.7	2.3	359	28	5.6	3.4	001				
2.1 "	31	6.0	4.5	08	25	2.3	1.2	131	31	3.5	2.7	178	30	2.4	0.8	165	31	6.8	3.9	330	29	6.2	3.7	325				
3.0 "	30	5.9	5.0	085	23	3.0	0.7	109	28	4.7	3.7	212	28	3.8	2.1	197	31	7.6	5.6	303	31	7.2	5.1	303				
3.6 "	26	6.3	5.3	087	16	6.8	3.2	246	13	8.9	7.2	240	5	8.4	5.4	247	31	8.3	7.1	296	31	8.0	6.5	289				
4.5 "	14	5.6	3.8	084	12	15.4	14.6	261	2	5.9	5.9	255	2	9.3	8.4	271	31	9.0	7.9	285	30	9.0	7.8	279				
5.4 "					7	16.6	15.7	263					1	18.0	18.0	235	31	10.4	9.1	268	31	10.1	8.7	270				
6.0 "					5	19.8	18.2	268									31	12.2	10.9	262	31	11.4	10.2	263				
7.2 "					1	23.2	23.2	330									31	17.6	14.0	256	28	15.1	13.6	256				
9.0 "																	28	21.5	19.9	257	17	19.1	17.6	263				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9.0 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	NAGPUR								NANPARA								NEW DELHI							
	1730*				2330				0530				1730				0530*				1130			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.2	1.1	065	31	0.7	0.5	036	31	1.0	0.7	306	31	0.6	0.3	289	31	1.6	1.5	299	31	2.6	1.6	300
0.15 a.g. . .	31	4.2	3.2	065	31	4.9	3.9	069	31	3.5	2.7	312	31	4.1	2.7	285	31	5.3	4.1	327	31	3.8	2.7	308
0.3 a.m.s.l. .									31	3.5	2.8	314	31	4.0	2.7	276	31	4.7	4.2	325	31	3.8	2.6	312
0.6 „ . . .	31	4.1	3.3	065	31	5.0	3.8	076	31	3.6	2.9	313	31	4.3	3.0	292	31	5.5	4.4	320	31	4.7	3.3	306
0.9 „ . . .	31	3.1	2.1	037	31	4.6	3.2	062	31	4.1	2.7	320	31	5.0	3.1	302	31	5.8	4.7	311	31	5.7	4.2	308
1.5 „ . . .	31	5.0	3.8	340	31	4.9	3.2	006	31	5.6	3.4	309	31	6.1	3.4	312	31	6.3	5.1	301	31	6.1	4.2	294
2.1 „ . . .	31	7.4	5.7	321	30	5.9	3.6	331	29	7.4	5.9	303	29	8.1	6.3	309	31	6.8	5.6	290	31	6.5	4.4	280
3.0 „ . . .	31	8.1	5.9	295	28	7.2	5.4	297	23	8.4	7.1	295	25	8.9	7.8	305	31	8.9	7.4	284	31	9.3	6.0	275
3.6 „ . . .	31	9.4	7.9	289	24	7.2	6.6	290	19	8.5	8.1	294	23	9.8	9.3	303	31	10.6	8.8	279	31	10.8	9.1	275
4.5 „ . . .	31	10.2	9.3	280	5	6.3	5.9	262	7	12.2	11.7	290	9	10.7	10.5	288	31	13.5	12.4	276	27	13.9	13.1	275
5.4 „ . . .	31	11.6	10.7	272					2	10.8	10.7	281	2	13.1	13.1	265	31	17.3	16.4	275	26	19.6	17.7	272
6.0 „ . . .	31	13.5	12.1	267					1	9.8	9.8	280	1	13.9	13.9	270	31	21.1	21.1	274	22	21.0	18.0	270
7.2 „ . . .	31	17.0	15.8	258													31	29.1	27.1	269	16	28.8	27.1	267
9.0 „ . . .	29	21.1	19.3	253													31	38.1	35.0	267	6	37.5	35.9	270

Station	NEW DELHI								POONA								PORT BLAIR							
	1730*				2330				0530				1730				2330				0530*			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.3	0.6	309	31	1.6	1.1	310	31	0.1	0.1	180	31	1.1	0.6	081	C	A	L	M	31	2.4	1.6	050
0.15 a.g. . .	31	5.1	3.2	317	31	5.3	4.0	327	31	3.6	3.2	099	31	3.2	2.0	072	31	3.8	2.1	078	31	8.0	6.8	053
0.3 a.m.s.l. .	31	5.1	3.1	316	31	4.9	3.5	327													31	8.0	6.9	053
0.6 „ . . .	31	4.6	3.2	320	31	5.4	4.2	319	31	1.3	0.3	133	31	2.4	1.5	070	31	1.5	0.4	160	31	7.8	6.6	072
0.9 „ . . .	31	4.6	3.5	313	31	5.7	4.4	305	31	5.5	5.0	107	31	3.4	2.3	074	31	5.1	3.7	080	31	8.3	7.2	086
1.5 „ . . .	31	6.0	4.7	304	31	5.8	4.4	294	31	6.4	5.5	108	31	3.4	2.3	084	31	5.8	4.8	093	31	8.5	7.2	095
2.1 „ . . .	31	7.2	5.9	297	30	6.2	4.8	282	31	4.3	2.5	112	31	4.0	2.5	088	31	5.2	3.8	102	31	8.4	7.4	094
3.0 „ . . .	31	13.4	8.2	289	28	8.3	7.2	280	31	4.2	1.5	331	31	4.4	1.7	093	31	4.2	0.8	106	30	6.4	5.7	097
3.6 „ . . .	31	11.7	10.7	282	5	9.6	9.0	281	30	4.4	1.9	298	31	4.6	0.1	296	30	4.5	1.9	268	30	7.6	6.5	093
4.5 „ . . .	31	14.9	13.4	280					8	4.6	1.5	265	29	6.1	2.2	272	13	5.0	4.3	259	29	8.7	8.1	102
5.4 „ . . .	31	18.5	17.5	275									29	7.7	3.7	266	7	6.5	5.4	270	29	8.7	8.3	095
6.0 „ . . .	31	21.0	20.1	274									29	9.3	5.7	264	5	5.3	4.7	237	29	9.3	8.6	097
7.2 „ . . .	30	28.9	27.3	274									21	11.1	9.5	246	3	7.1	6.9	270	29	10.1	8.5	096
9.0 „ . . .	28	37.1	35.5	270									18	17.2	15.0	248					24	8.5	3.8	120

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 km. above mean sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Station	PORT BLAIR												RAIPUR											
	1130				1730*				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	3.4	4.5	055	31	2.9	2.6	048	31	3.2	2.7	050	31	2.1	1.5	034	31	1.0	0.9	026	31	1.1	0.8	092
0.15 a.g. . .	31	5.7	4.9	055	31	7.2	6.3	054	31	6.6	5.5	052	31	4.3	3.0	048	31	2.9	2.5	025	31	3.3	2.7	090
0.3 a.m.s.l. .	31	6.2	5.3	056	31	7.1	6.4	057	31	6.6	5.6	054												
0.6 „ . . .	31	6.6	5.7	066	31	7.5	6.4	055	31	7.4	6.2	062	31	4.3	3.1	048	31	3.1	2.7	030	31	3.2	2.3	070
0.9 „ . . .	29	6.6	5.7	077	31	7.1	6.0	074	29	7.1	6.1	072	31	3.8	2.7	034	31	3.3	2.7	029	31	3.5	2.2	036
1.5 „ . . .	26	6.4	5.7	088	31	7.9	6.8	093	24	7.1	5.9	092	31	4.9	3.2	358	31	5.6	4.4	360	31	5.0	3.9	359
2.1 „ . . .	25	6.6	5.9	086	31	7.5	6.3	094	23	7.2	6.4	089	31	6.7	4.9	327	31	7.4	5.8	327	30	6.4	4.4	338
3.0 „ . . .	23	5.6	4.8	086	31	6.4	5.5	090	18	6.3	5.2	096	29	7.8	6.0	301	31	8.4	6.7	309	29	8.9	6.7	306
3.6 „ . . .	20	5.7	4.7	091	30	7.8	6.2	092	13	6.2	5.8	272	16	6.8	5.7	295	30	8.7	8.3	299	17	9.2	6.7	303
4.5 „ . . .	16	7.4	6.7	095	30	8.6	7.8	094	10	7.3	6.8	098	4	6.4	6.2	253	26	10.8	9.7	290				
5.4 „ . . .	13	8.5	7.9	101	29	10.2	10.2	102									21	12.5	11.3	281				
6.0 „ . . .	11	8.4	7.6	098	27	10.5	7.4	103									17	11.4	10.0	272				
7.2 „ . . .	7	8.3	5.7	087	27	11.1	9.3	098									6	17.5	16.2	250				
9.0 „ . . .	1	19.6	19.6	125	25	11.2	7.6	245																

Station	RAXAUL								SANTA CRUZ															
	0530				1730				0530*				1130				1730*				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.1	0.1	315	31	0.3	0.3	230	31	1.2	1.1	084	31	2.2	1.6	071	31	3.7	3.4	320	21	2.2	1.9	360
0.15 a.g. . .	24	3.3	1.6	318	31	4.5	4.1	249	31	4.7	2.4	041	31	2.2	1.6	070	31	5.8	4.7	327	31	5.1	4.7	011
0.3 a.m.s.l. .	24	3.2	1.9	313	31	4.3	3.8	249	31	4.7	4.1	068	31	2.8	2.3	091	31	4.5	3.4	335	31	5.3	4.7	011
0.6 „ . . .	24	2.5	0.9	299	31	3.3	2.7	258	31	4.5	3.5	092	31	3.2	2.2	096	31	3.4	1.9	014	31	4.6	3.8	016
0.9 „ . . .	24	2.5	0.8	121	31	3.1	1.6	283	31	4.6	3.4	098	31	3.4	2.1	096	31	3.7	2.4	050	31	3.7	2.7	038
1.5 „ . . .	22	3.2	1.4	077	31	3.7	0.8	058	31	3.9	2.2	136	30	3.8	0.6	122	31	4.5	3.0	073	31	4.4	3.3	100
2.1 „ . . .	19	5.7	2.5	313	30	5.9	2.4	322	31	4.0	2.1	165	31	4.5	0.4	115	31	4.6	1.5	075	31	5.7	3.7	120
3.0 „ . . .	14	10.2	9.4	288	22	9.3	8.6	290	31	4.7	1.5	287	29	4.3	0.7	321	31	4.0	0.2	160	28	4.1	0.9	241
3.6 „ . . .	6	7.4	7.0	275	19	11.3	10.6	284	31	5.1	2.8	274	30	5.1	1.7	245	31	4.9	1.9	249	19	4.9	1.6	283
4.5 „ . . .					8	13.4	13.3	274	31	6.8	3.7	272	30	6.1	2.7	246	31	6.8	4.3	266	3	5.7	3.0	255
5.4 „ . . .					1	22.7	22.7	280	31	7.4	5.0	258	30	7.4	4.3	251	31	8.3	5.3	265	1	4.1	4.1	27
6.0 „ . . .									31	10.5	7.3	256	30	9.0	6.2	252	31	10.5	9.0	251	1	3.6	3.6	235
7.2 „ . . .									31	11.2	9.0	249	29	11.2	8.2	249	31	12.5	11.6	248				
9.0 „ . . .									26	17.6	15.4	253	22	15.1	12.7	247	25	16.4	14.4	252				

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds upto 9 km. above mean sea level

December 1959 (Agrahayana 10— Pausa 10, 1881 Saka)

Station	TEZPUR												TIRUCHIRAPALLI											
	0530				1730				2330				0530				1730				2330			
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.1	0.1	045	C	A	L	M	31	0.1	0.1	045	31	3.1	2.6	013	31	3.4	3.1	059	31	2.8	2.6	050
0.15 a.g. . .	31	3.7	3.3	071	31	4.1	4.0	062	31	4.7	4.6	080	31	8.1	7.8	027	31	5.9	5.6	057	30	7.5	7.3	050
0.3 a.m.s.l. .	31	3.9	3.5	074	31	3.9	3.8	060	31	4.5	4.4	087	31	8.8	8.3	031	31	6.5	6.2	054	30	8.8	8.4	050
0.6 „ . . .	31	3.9	3.5	080	31	3.2	3.1	062	31	3.4	3.2	094	30	8.9	8.6	039	31	7.8	7.6	047	30	10.1	9.8	047
0.9 „ . . .	31	3.8	3.4	084	31	2.2	2.0	087	31	2.5	2.1	093	29	8.1	7.7	047	31	7.5	7.4	046	29	9.0	8.6	048
1.5 „ . . .	31	4.6	4.2	083	31	3.0	2.3	133	31	2.5	1.5	088	25	7.2	6.2	063	29	6.9	6.3	052	28	7.1	6.2	043
2.1 „ . . .	30	5.0	3.3	076	31	4.0	1.5	114	31	3.9	2.4	072	21	6.7	5.6	078	29	6.5	5.9	069	24	6.4	5.6	071
3.0 „ . . .	26	6.9	4.4	266	30	8.2	5.8	278	30	7.2	3.7	271	20	6.8	5.8	081	27	6.3	5.1	077	22	6.3	5.2	072
3.6 „ . . .	10	10.8	9.4	269	23	12.9	11.9	274	17	14.5	14.2	252	19	6.9	5.7	089	24	6.3	5.5	077	21	6.8	6.2	082
4.5 „ . . .	2	16.2	16.2	261	9	18.9	18.8	274	4	16.8	16.8	269	13	6.4	5.2	079	19	6.2	5.3	079	10	4.3	3.4	099
5.4 „ . . .					1	22.7	22.7	270	3	19.2	18.9	269	2	3.1	2.6	187	15	6.8	5.5	088	1	7.2	7.2	120
6.0 „ . . .					1	25.2	25.2	280					2	3.1	2.0	143	14	7.5	5.7	090				
7.2 „ . . .																	13	5.8	4.6	100				
9.0 „ . . .																	10	4.1	1.4	082				

Station	TRIVANDRUM												UDAIPUR											
	0530*				1130				1730*				2330				0530			1730				
Time in I.S.T.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	1.3	0.8	020	31	1.0	0.5	265	31	1.5	1.2	248	31	1.3	0.7	028	31	0.1	0.1	317	31	0.6	0.1	063
0.15 a.g. . .	31	2.1	0.8	351	31	1.5	0.6	271	31	2.9	2.3	255	30	2.6	0.8	286	31	2.5	1.6	002	31	2.6	0.4	119
0.3 a.m.s.l. .	31	2.0	0.6	360	31	1.4	0.2	253	31	2.8	2.0	260	30	2.3	0.9	289								
0.6 „ . . .	31	2.1	0.6	072	31	1.4	0.5	044	31	2.4	1.0	047	30	2.6	1.0	043								
0.9 „ . . .	31	2.8	1.8	088	29	2.2	1.5	062	31	3.8	3.3	047	30	4.1	3.5	066	31	3.2	1.3	051	31	2.7	0.3	112
1.5 „ . . .	31	4.0	2.6	090	26	4.2	3.3	077	31	4.5	3.8	062	28	5.2	4.3	071	31	4.5	2.8	223	31	3.0	1.3	283
2.1 „ . . .	31	4.4	2.5	110	24	4.8	4.0	089	31	5.2	3.5	079	26	5.4	3.5	088	31	6.3	4.8	256	31	5.2	4.1	273
3.0 „ . . .	31	5.3	3.2	089	22	6.0	5.1	096	31	5.7	3.8	090	24	6.4	4.1	094	30	10.4	9.3	270	30	9.7	8.1	270
3.6 „ . . .	31	5.8	4.5	085	19	6.6	6.0	089	31	5.8	4.2	094	13	5.5	4.3	077	25	13.0	11.5	269	30	11.8	10.6	271
4.5 „ . . .	31	6.0	4.8	094	16	6.4	5.8	090	31	5.8	4.9	092	7	5.3	3.9	090	12	12.5	11.7	271	27	14.8	13.4	271
5.4 „ . . .	31	6.3	5.4	094	12	6.7	6.2	086	31	6.4	4.8	087	1	4.1	4.1	060	2	10.8	10.7	258	25	18.4	16.7	272
6.0 „ . . .	31	5.9	4.8	092	9	7.7	6.3	097	31	6.2	4.7	087	1	3.6	3.6	040	1	13.9	13.9	260	24	20.6	18.6	271
7.2 „ . . .	30	6.2	5.1	088	6	8.7	7.3	077	31	7.1	5.8	095					1	47.6	47.6	255	2	20	23.0	269
9.0 „ . . .	30	6.8	4.9	114	4	6.2	4.9	092	30	7.4	5.8	126									9	23.1	21.4	271

TABLE IV—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds up to 9.0 Km. above mean sea level

December 1959 (Agrahayana 10 — Pausa 10, 1881 Saka)

Station	UDAIPUR				VENGURLA								VERAVAL															
	2330				0530				1730				2330				0530*				1130							
Time in I. S. T.																												
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	0.1	0.1	315	31	0.7	0.6	360	31	1.7	1.5	258	31	0.5	0.4	311	31	3.8	3.2	030	31	3.2	2.7	035				
0.15 a. g. . .	31	2.6	1.3	012	31	4.7	3.8	070	31	3.0	2.4	274	31	4.8	4.4	007	30	6.7	5.7	041	31	3.8	3.3	041				
0.3 a.m.s.l. . .					31	5.7	4.7	086	31	3.5	2.6	287	31	5.9	5.3	007	30	5.2	4.3	043	31	4.0	3.1	044				
0.6 „ . . .					31	6.9	6.0	097	31	3.4	1.8	009	31	6.2	5.0	028	30	3.8	2.1	053	31	3.3	1.9	036				
0.9 „ . . .	31	3.8	1.3	058	31	7.3	6.2	101	31	4.4	3.4	059	31	6.5	5.1	063	30	3.3	0.8	070	31	2.8	0.7	041				
1.5 „ . . .	31	4.5	1.6	174	31	6.3	5.3	095	31	7.1	6.9	069	31	8.5	8.2	083	30	3.5	0.4	208	31	4.0	1.7	193				
2.1 „ . . .	31	5.9	3.8	241	30	6.1	4.9	087	30	8.7	8.3	075	31	8.6	8.3	087	30	3.1	2.4	225	31	5.2	2.8	221				
3.0 „ . . .	31	8.7	7.6	269	27	5.5	1.6	085	29	6.2	5.2	079	28	7.6	6.5	090	30	6.0	3.5	233	31	6.7	4.7	241				
3.6 „ . . .	29	10.1	9.1	268	15	5.9	3.2	098	29	5.5	4.3	075	10	7.5	6.1	103	28	7.8	4.9	244	29	8.1	5.7	245				
4.5 „ . . .	15	12.3	11.2	271	8	5.5	3.9	095	27	5.6	3.5	099	1	3.6	3.6	060	28	8.9	6.8	251	29	11.0	8.3	250				
5.4 „ . . .	6	16.9	16.4	271	1	3.6	3.6	080	27	6.2	0.8	131					28	10.2	8.2	250	29	11.8	9.3	260				
6.9 „ . . .	3	16.1	15.3	274					27	6.5	1.8	201					28	11.0	9.5	255	29	12.9	10.6	259				
7.2 „ . . .	1	9.3	9.3	270					16	7.9	5.9	220					28	14.1	12.8	257	26	15.5	13.5	260				
9.0 „ . . .									8	10.0	7.9	238					25	18.5	16.3	257	13	23.0	20.9	253				

Station	VERAVAL				VISAKHAPATNAM																			
	1730*				2330				0530				1730				2330							
Time in I. S. T.																								
Ht. in Km.	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D	n	V	v	D
Surface . . .	31	2.8	1.6	240	31	2.6	2.3	029	31	0.3	0.3	073	31	3.6	3.5	093	31	0.6	0.5	079				
0.15 a. g. . .	31	5.0	1.9	255	31	6.9	5.6	021	31	2.3	2.1	047	30	5.0	4.8	083	30	3.1	2.8	067				
0.3 a.m.s.l. . .	31	3.4	1.1	359	31	7.1	5.5	031	31	2.8	2.7	056	30	5.0	4.7	069	30	3.5	3.4	069				
0.6 „ . . .	31	4.6	2.3	040	31	5.7	4.4	056	31	3.8	3.6	055	30	4.5	4.2	033	30	3.9	3.7	055				
0.9 „ . . .	31	3.2	2.3	033	31	4.6	4.0	077	30	4.2	3.9	044	30	4.7	4.5	022	30	4.2	3.8	031				
1.5 „ . . .	31	3.2	0.9	284	31	4.2	0.8	128	29	4.9	3.8	035	28	6.4	5.6	005	28	4.9	3.9	032				
2.1 „ . . .	31	4.6	2.7	238	31	5.7	2.0	227	29	4.5	2.4	028	27	5.6	4.2	011	26	4.4	2.7	030				
3.0 „ . . .	31	6.7	5.0	254	31	5.9	3.4	242	27	5.2	2.8	026	27	6.2	4.3	004	25	4.8	2.9	012				
3.6 „ . . .	31	7.7	6.2	258	20	6.3	4.1	256	18	5.2	2.3	005	26	6.1	3.8	352	13	4.3	2.8	020				
4.5 „ . . .	31	9.8	7.9	259	10	7.0	4.9	265	6	5.5	2.2	313	24	6.2	3.6	326	2	7.5	4.5	075				
5.4 „ . . .	31	11.0	9.3	257	6	7.8	6.5	263	1	9.3	9.3	245	22	6.6	2.5	295								
6.0 „ . . .	31	11.7	10.7	254	3	7.7	7.7	275					17	7.3	3.6	271								
7.2 „ . . .	31	14.5	13.0	249									11	9.7	6.7	273								
9.0 „ . . .	23	18.5	16.8	252																				

TABLE V—MONTHLY MEAN DIRECTIONS AND VELOCITIES OF UPPER WINDS

Winds above 9.0 km. above sea level

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	Ht. in Km.	n	V	v	D	
		MINICOY					POONA					TRIVANDRUM					1730 hrs.*			
		1730 hrs.					1730 hrs.					0530 hrs.*				10.5	12	23.8	20.8	249
10.5	2	6.7	6.2	160	10.5	12	22.0	20.6	234	10.5	30	9.0	7.1	147	12.0	7	19.6	17.9	236	
		NAGPUR														12.0	10	21.4	20.6	231
		0530 hrs.*														12.0	29	12.1	6.1	153
																14.1	6	22.8	21.3	233
																14.1	26	13.1	5.9	203
																16.2	3	20.6	18.5	241
10.5	27	26.0	23.4	254		PORT BLAIR				16.2	15	7.4	2.0	209	18.0	1	10.3	10.3	270	
12.0	22	27.9	26.3	242		0530 hrs.*				18.0	5	7.2	2.9	082	21.0	1	10.8	10.8	250	
14.1	17	24.3	22.3	250						21.0	1	8.2	8.2	290						
16.2	8	15.7	14.2	235	10.5	20	10.6	6.5	144		1130 hrs.									
18.0	4	18.3	18.0	245	12.0	11	13.9	12.8	139	10.5	2	6.9	4.0	170						
21.0	2	11.1	11.1	249	14.1	4	9.9	9.4	132	12.0	1	12.4	12.4	205						
		1130 hrs.					1130 hrs.				14.1	1	6.2	6.2	200					
10.5	4	22.4	21.5	242	10.5	1	19.0	19.0	110		1730 hrs.*									
12.0	1	29.8	29.8	245	12.0	1	13.9	13.9	115	10.5	27	10.6	6.7	123						
		1730 hrs.*					1730 hrs.*				12.0	22	13.8	7.8	161					
						10.5	12	12.0	6.7	130	14.1	18	10.1	6.0	199					
10.5	28	25.4	20.7	254	12.0	4	13.5	10.4	150	16.2	12	8.4	3.2	144						
12.0	24	28.7	26.3	247	14.1	1	20.6	20.6	140	18.0	8	8.0	3.2	173						
14.1	19	26.8	25.2	247	16.2	1	14.4	14.4	100	21.0	2	6.4	6.0	211	10.5					
16.2	13	18.5	16.2	251		SANTA CRUZ														
18.0	3	29.9	25.8	253		0530 hrs.*														
		NEW DELHI				10.5	23	19.6	18.2	248		UDAIPUR								
		0530 hrs.*				12.0	15	25.1	23.3	249		1730 hrs.								
10.5	26	42.0	41.5	262	14.1	10	23.6	22.8	256	10.5	3	28.2	26.5	269						
12.0	19	43.7	42.0	256	16.2	6	18.3	17.1	260	12.0	2	35.9	34.4	269						
14.1	9	40.1	39.5	258	18.0	1	8.2	8.2	145		VENGURLA									
16.2	6	29.6	27.9	266		1130 hrs.					0530 hrs.*									
18.0	3	36.4	36.0	265	10.5	8	17.5	14.8	225											
21.0	1	5.7	5.7	340	12.0	5	17.0	16.2	224	10.5	1	30.8	30.8	225						
		1130 hrs.				14.1	2	15.7	15.3	183		VERAVAL								
							1730 hrs.*					0530 hrs.*								
10.5	3	36.3	34.3	260	10.5	21	19.9	16.6	240											
12.0	1	34.4	34.4	265	12.0	14	21.3	20.7	246	10.5	19	21.4	19.4	249						
		1730 hrs.*				14.1	8	20.4	20.0	255	12.0	17	23.0	21.0	254					
10.5	25	38.2	38.1	265	16.2	4	14.2	13.8	348	14.1	4	15.2	14.6	270						
12.0	17	40.4	38.8	262	18.0	2	18.3	5.2	290		TIRUCHIRAPALLI									
14.1	7	45.3	44.7	257		1730 hrs.					1130 hrs.									
16.2	2	22.7	21.4	265	10.5	4	7.9	5.6	178	10.5	9	24.3	21.7	259						
18.0	2	34.7	34.7	270	12.0	1	9.3	9.3	145	12.0	3	24.7	24.1	250						

RADIOSONDE DATA

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

During the month, observations of upper air temperature, pressure and humidity were made at 13 stations in India as given in the list below. For a detailed description of the instruments used, a reference may be made to the I. M. D. Scientific Notes Nos. 112 and 113 (Volume IX).

LIST OF RADIOSONDE STATIONS IN INDIA

Serial No	Name of station	Type of instrument used	Date of starting	Hours of routine observations in G.M.T. during the month	Remarks
1	Allahabad	Clock type	1st October, 1944 . . . . .	. . . . . 00 and 12	
2	Amritsar	Clock type	21st June, 1957 . . . . .	. . . . . 00 and 12	
3	Bombay	Clock type	7th September, 1954 . . . . .	. . . . . 00 and 12	
4	Calcutta	Clock type	13th December, 1946 . . . . .	. . . . . 00 and 12	. Fan type used from 13-12-46 to 30-11-47.
5	Gauhati	Clock type	22nd July, 1955 . . . . .	. . . . . 00 and 12	
6	Jodhpur	Clock type	17th April, 1946 . . . . .	. . . . . 00 and 12	
7	Madras	Fan type	29th June, 1946 . . . . .	. . . . . 00 and 12	
8	Nagpur	Fan type	1st October, 1946 . . . . .	. . . . . 00 and 12	
9	New Delhi	Clock type	3rd December, 1943 . . . . .	. . . . . 00 and 12	
10	Port Blair	Fan type	4th December, 1949 . . . . .	. . . . . 00 and 12	
11	Trivandrum	Fan type	1st July, 1947 . . . . .	. . . . . 00 and 12	
12	Veraval	Fan type	3rd October, 1944 . . . . .	. . . . . 00 and 12	
13	Visakhapatnam	Fan type	8th December, 1946 . . . . .	. . . . . 00 and 12	

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(A) From Ascents at 0000 Hours G. M. T.

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1009 mb.)					
	No. of Obs.	Ht. gpm.	Temperature °A			
			Mean	Max.	Min.	Dew point
Surface	31	048	293.4	297	290	289.0
1000	31	123	..	..	..	..
900	31	1034	290.6	293	288	282.4
850	31	1523	289.9	293	287	275.1
800	31	2040	288.1	291	285	271.0
700	31	3162	283.4	287	281	266.2
600	31	4430	276.4	279	273	261.1
500	31	5887	267.4	271	263	..
400	31	7632	256.2	261	251	..
300	28	9704	241.3	248	237	..
250	22	10966	231.8	237	226	..
200	22	12441	220.9	232	211	..
175	19	13290	214.5	222	202	..
150	14	14223	208.5	218	197	..
125	11	15300	202.9	207	192	..
100	9	16630	198.7	203	190	..
80						..

RADIOSONDE DATA

TABLE VI—MEAN DYNAMIC HEIGHT, TEMPERATURE AND DEW POINT AT STANDARD PRESSURE SURFACES

(B) From Ascents at 1200 Hours G. M. T.

December 1959 (Agrahayana 10—Pausa 10, 1881 Saka)

Standard Pressure Surface mbs.	VISAKHAPATNAM Surf. Pr. (1008 mb.)					
	No. of Obs.	Ht. gpm.	Temperature A			
			Mean	Max.	Min.	Dew point
Surface	31	048	298.0	299	297	290.5
1000	31	116	..	..	..	..
900	31	1033	292.2	295	290	282.4
850	31	1524	290.7	295	288	275.7
800	31	2024	288.8	292	286	271.4
700	31	3165	283.5	287	278	266.6
600	31	4434	276.6	281	271	261.2
500	31	5892	267.7	272	263	..
400	31	7608	256.3	262	252	..
300	29	9712	241.1	248	235	..
250	27	10970	231.3	239	224	..
200	24	12412	218.8	225	209	..
175	21	13268	212.9	213	206	..
150	18	14210	205.6	210	200	..
125	14	15308	200.3	206	194	..
100	11	16622	195.7	201	190	..
80						

NOTE.—Number of observations refer to those of dynamic height.
Means are not worked out for temperature and dew point for the 1000 mb. surface and for dew point for standard pressure surfaces with temperature less than 273°A.
Means are not worked out for less than five observations at standard pressure surfaces.

ERRATA TO MONTH WEATHER FOR THE YEARS 1945 TO 1958

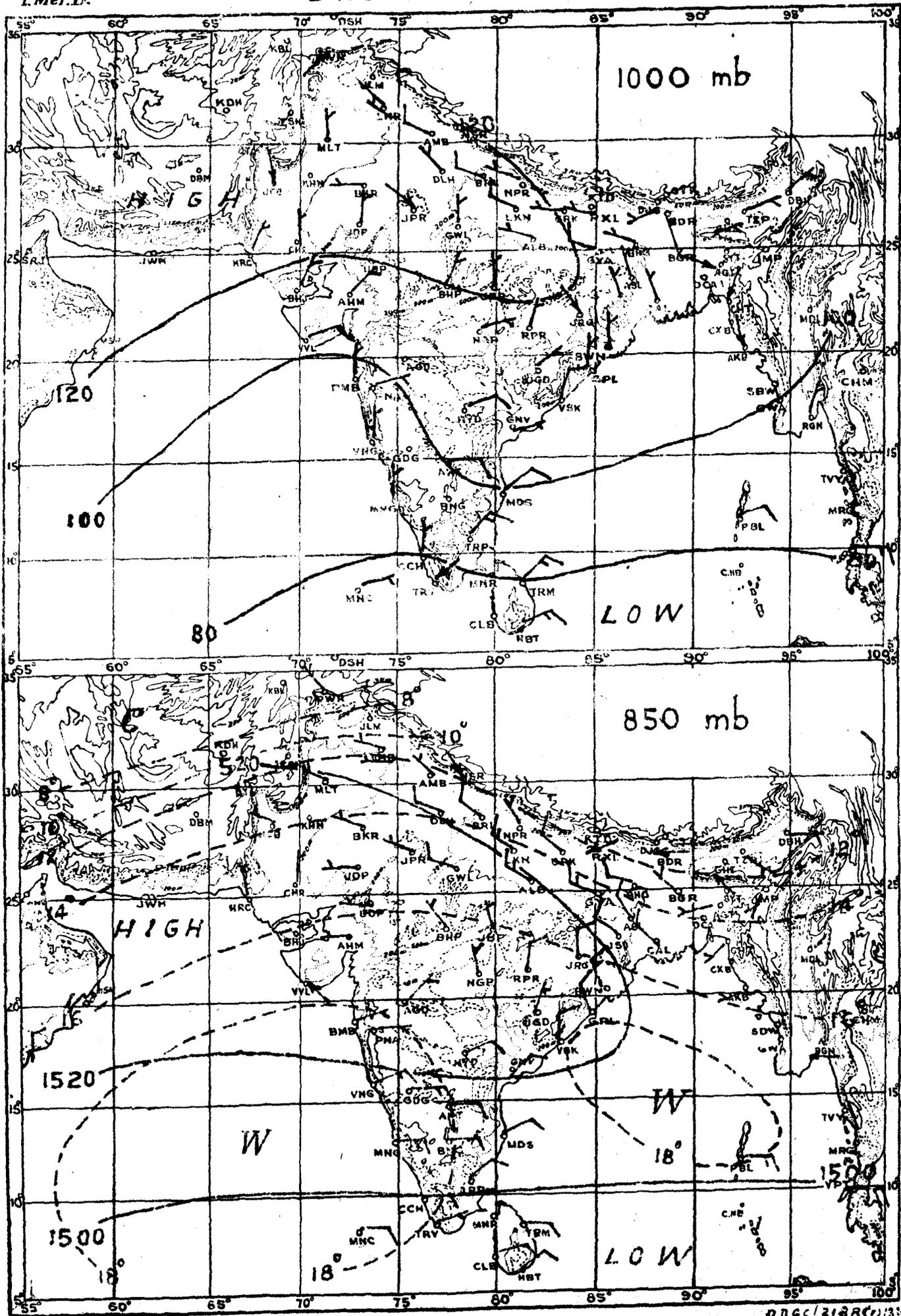
	STATION	YEAR	MONTH	COL.	FOR	READ		STATION	YEAR	MONTH	COL.	FOR	READ
	TABLE II												
1	Dohad	1945	July	11	18.80	19.70	24	Bhadrachallam	1954	August	11	12.56	12.53
2	Harnai	1947	July	"	37.10	36.68	25	Tangla	1955	June	"	14.43	15.43
3	Harnai	1948	June	"	18.25	17.08	26	Jaisalmer	1955	August	"	15.53	11.44
4	Ramagundam	1949	May	"	5.23	5.07	27	Dholpur	1955	October	"	6.38	5.88
5	Harnai	1949	June	"	14.84	14.92	28	Tangla	1956	June	"	19.74	20.74
6	Chhindwara	1949	June	"	7.23	7.32	29	Nautanwa	1956	July	"	12.23	12.61
7	Ramagundam	1949	July	"	11.75	11.77	30	Dohad	1956	July	"	9.16	9.16
8	Harnai	1949	August	"	15.79	15.86	31	Rajgarh	1956	September	"	..	(b) 5
9	Amritsar	1950	September	"	14.35	..	32	Ambikapur	1957	June	"	97.9 (mm)	97.8 (mm)
10	Koraput	1950	October	"	..	1.74	33	Dharamshala	1957	July	"	801.4	800.4
11	Tura	1951	June	"	28.34	28.58	34	Mahabubnagar	1957	August	"	261.3	263.6
12	Amini Divi	1951	September	"	5.15	4.55	35	Dholpur	1957	September	"	170.3	150.3
13	Sironcha	1951	November	"	0.00	0.06	36	Kondul	1958	June	"	619.5	623.3
14	Sironcha	1951	December	"	0.06	0	37	Chaparmukh	1958	June	"	285.6	207.8
15	Contai	1952	January	"	..	(Data not available)	38	Golaghat	1958	June	"	107.4	107.3
16	Mandla	1952	July	"	17.15	17.13	39	Kondul	1958	July	"	42.91	429.1
17	Jamui	1952	August	"	..	7.84	40	Dholpur	1958	July	"	336.3	344.8
18	Mandla	1952	August	"	16.77	16.79	41	Shimoga	1958	July	"	340.5	340.3
19	Agaratala	1953	June	"	17.82	17.80	42	Tura	1958	July	"	178.5	176.6
20	Mohanbari	1953	August	"	14.68	14.48	43	Lumding	1958	August	"	212.1	213.1
21	Dholpur	1953	August	"	367.3 (mm)	365.3 (mm)	44	Shimoga	1958	September	"	92.5	92.3
22	Nainital	1954	July	"	34.17 (inches)	34.06 (inches)	45	Chura	1958	October	"	0.8	8.0
23	Babatpur	1954	July	"	7.14	7.21	46	Sri Ganganagar	1958	November	"	1.0	1.3

MONTHLY MEAN CONSTANT PRESSURE CHARTS

DECEMBER 1959

Plate I

I. Met. D.



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

140 731

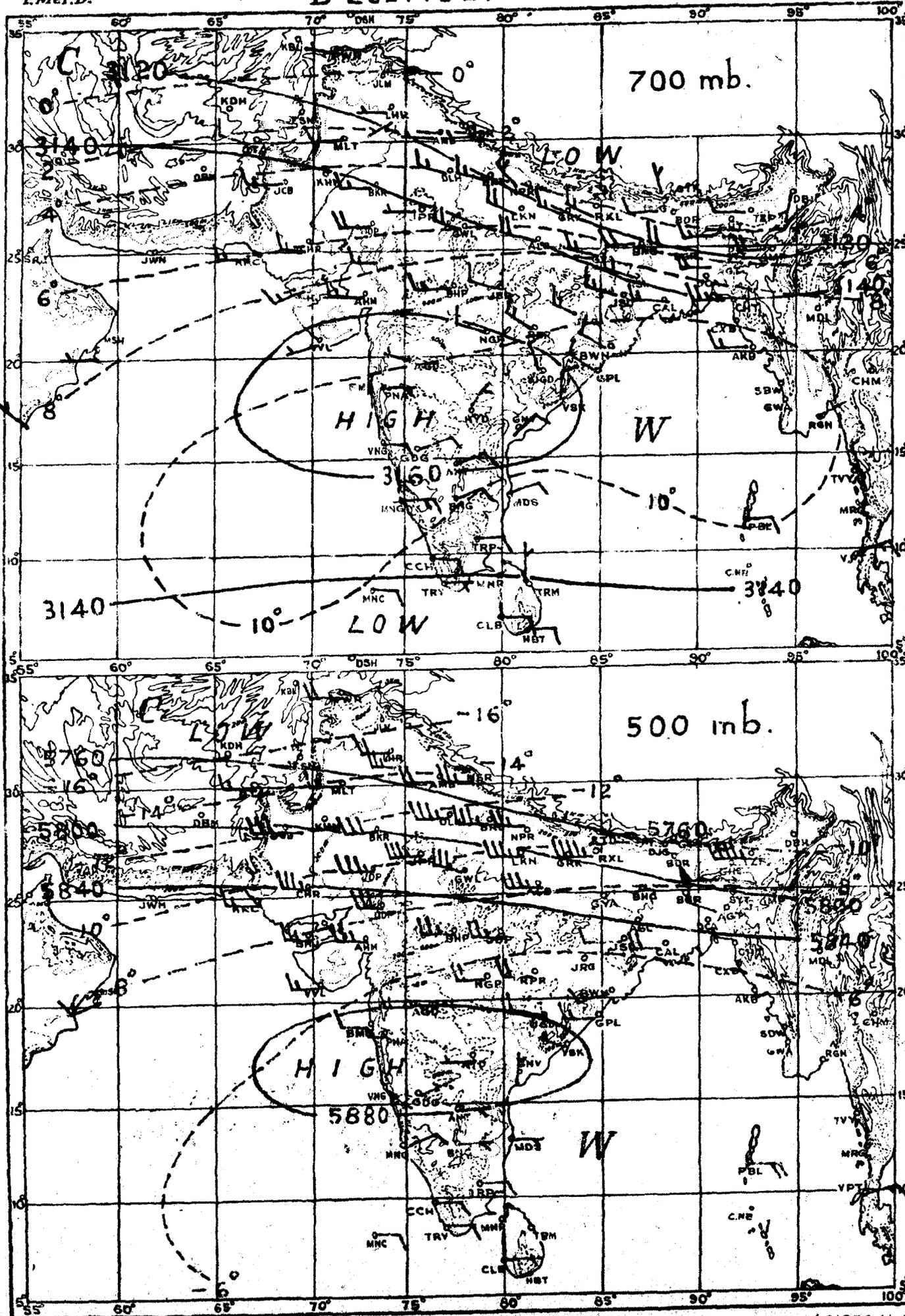
S.P.E. & PONS, 1963

MONTHLY MEAN CONSTANT PRESSURE CHARTS

DECEMBER 1959

I. Met. D.

Plate II



RESULTANT WIND — 5 Knots, — 10 Knots, — 50 Knots.

----- Isotherms in degrees centigrade ———— Contours in geopotential metres.

206.1/54
I 392
annual
pt. 2

GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT

INDIA WEATHER REVIEW, 1959

ANNUAL SUMMARY

PART B

SNOWFALL

CONTENTS

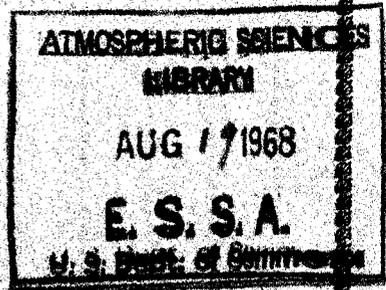
	Page		Page
Winter Period	B1	Post Monsoon Period	B8
Hot Weather Period	B4	Summary	B9
Southwest Monsoon Period	B6		

Published by the Authority of the Government of India

Under the Direction of

P. R. Krishna Rao, B. Sc., F. A. Sc.

Director General of Observatories, New Delhi



PRINTED IN INDIA BY THE MANAGER, GOVT. OF INDIA PRESS, NASIK
PUBLISHED BY THE MANAGER OF PUBLICATIONS DELHI-11005

Price: (Inland) Rs. 2-55 (Foreign) 6s. or 92 Cents.

INDIA WEATHER REVIEW, 1959

ANNUAL SUMMARY

PART B

SNOWFALL

This part contains a summary of the reports of snowfalls in the mountain ranges to the north of India based on (a) records of snowfall observations made at the observatories and (b) reports collected by the local officers from the local residents, headmen of villages or from travellers who passed through the region and then transmitted the information to this office.

The amount of snowfall is usually measured by finding the depth of undisturbed snow lying on the ground. The measurements are given in centimetres or tenths of metres. At places provided with raingauges the snow collected in the gauge is melted and measured as rain. This is indicated in the text and the measurements are given in tenths of centimetres. The heights of well known peaks are reported in the nearest metres wherever available while the heights of mountain ranges etc. are reported in tens of metres.

Cold Weather Period—January and February

I—JAMMU AND KASHMIR

SOUTH ANANTNAG DISTRICT

Srinagar.—Ten snowfalls of light to moderate intensity occurred during the month of January. The heaviest fall was 4.4 cm., the total precipitation for the month being 16.2 cm.

February witnessed ten snowfalls of moderate intensity, the total precipitation being 12.0 cm. In January and February the depth of snow accumulation was 30 cm. in the main valley, while the surrounding peaks were covered with deep snows. The snowfall was above normal for both the months.

Patni Top (Batote)—In January snow fell on four days. The heaviest fall of 46.0 cm. was recorded on 28th at the station proper, while the fall on 26th amounted to 15 cm. The snowline descended upto 2700 m. above sea level. The depth of snow accumulation was 46 cm. at the station, while it was 91 cm. at the low level tunnel at Banihal Pass. In February it snowed on five days, the heaviest fall occurred on 11th, when the snowline descended to 760m. The total depth of snow accumulation was 140 cm. at the station, while 110 cm. of snow remained unmelted upto the end of the period. Sansar (2286m.), Ensin Dhar (2704m.—3353m.), Kud (2487m.) and Eastern Pirpanjal (4086m.—4109m.) were visible from the station and received snow during both the months. Due to heavy precipitation Srinagar-Pathankot road was blocked for a couple of days in February. Snowfall was above normal during the period.

LADAKH DISTRICT

Leh.—Report for January was not received. In February the following accumulations were reported on nearby peaks:

Name of Peak	Accumulation in metres
Naktul	1.2
Hurker	1.2
Sming	1.1

II—THE PUNJAB (1)

CHAMBA DISTRICT

Pangi

Kilar (Pangi Range).—Snow fell on seven days in January and ten days in February, the total snowfalls in these months being 101 cm. and 255 cm. respectively, the corresponding snow water amounts (or water equivalent of snow) being 6.8 cm. and 23.4 cm. The accumulation of snow on Sach Pass (4410m.) was 7.6 m. in January and 10.7 m. in February.

Churah

Tissa—Snow fell on seven occasions in January and five days in February, the total falls in these months being 30 cm. and 36 cm. respectively at the station proper. In February, at Sach Pass and Chehni Pass the respective snowfalls were 60 cm. and 90 cm. The accumulations on these passes were reported as under:

Name of pass	Accumulation of snow in metres	
	January	February
Sach (4420 m.)	1.8	3.1
Chehni (4570 m.)	2.1	3.7

Snowfall was above normal for the period.

Bhandal.—Snow fell on five days in January and four days in February, the total falls in these months amounting to 60 cm. and 120 cm. respectively. The snow accumulations on the passes in the region were as under :

Name of pass	Accumulation of snow in metres	
	January	February
Ganguhal (3370 m.)	4.6	9.1
Padhri (3050 m.)	4.0	7.6

Snowfall was above normal in both the months.

Tikri.—Snowfall occurred four times each in January and February. The snowline descended to 1520 m. in both the months. At places above 1830m. conspicuous snow accumulation was present while at still higher altitudes (3050m.) snowfall was common on every cloudy day. The average depth of snow varied from 28cm. to 305 cm. in both the months at a height above 1830m. The snow accumulations on the passes and peaks in the region were as under :

Name of pass/peak	Accumulation in metres	
	January	February
Drati Pass	3.1	3.1
Chaurasi Peak	2.7	2.7
Mehlu Pass	2.1	2.1

The snowfall was above normal during the period.

Chamba

Upper Chamba.—Snowfall occurred on six days in January and two days in February, the total falls in these months being 5 cm. and 15 cm. respectively. The snow accumulations on the passes of the region were as under :

Name of pass	Accumulation in metres	
	January	February
Padhri (3658 m.)	3.7	4.3
Basodhan (2743 m.)	1.2	1.5

Chhatrari.—Snowfall occurred on seven days in January and six days in February, the total precipitations in these months being 58 cm. and 46 cm. respectively.

Chowari.—There was no snowfall during the period.

Bathree.—Snowfall occurred on one day in each of the months January and February, the falls amounting to 6 cm. and 10 cm. respectively.

Bhanota.—Snow fell once in each of the months of January and February, the amounts being 3 cm. and 5 cm. respectively.

Bhattiyat

Kalatop (Dalhousie Forest Range)—Snow fell on eight days in January and eleven days in February, the total falls in these months being 140 cm. and 211 cm. respectively.

Basodhan Pass (2740 m.) was the only accessible pass during winter season. The depth of snow was 1.5 m. at the end of January and 1.2 m. at the end of February. The snowline descended to a height 910 m. during the period in this district. Snowfall was normal for the period.

Lower Chamba—Four snowstorms occurred in January and one in February, the snowline descended to 1220m. in January and 1680 m. in February. The depth of snow accumulations on the passes in the region were as given below :

Name of pass	Snow accumulation in metres	
	January	February
Basodhan	1.2	0.6
Banjai	0.6	0.5

The snowfall was above normal for both the months.

MAHASU DISTRICT

Chopal.—Snow fell on three days in January and six days in February, the total precipitations being 41cm. and 77 cm. respectively. On the high altitudes of Chutar, Khirki and Chur the depth of snow accumulation was 1.4 m. in January and 1.5 m. in February. The snowline descended to a height 1220 m. during the period. The snowfall was normal for the period.

Shillaroo.—Snow fell on eight days in January and nine days in February, the total falls being 57cm. and 101 cm. respectively. Snowfall was above normal for both the months.

Pandrabis.—It snowed heavily once in January. In February snow fell on twelve days, the total fall being 160cm. In February the snowline descended to a height 1220m. At the end of these months the snow accumulations on Gamoghati were 0.6 m. and 1.0 m. respectively. The snowfall was below normal in January and normal in February.

Rampur.—Snowstorms occurred on six days in January and eight days in February. The snowline descended to an elevation of 1370 m. in both the months. In January the depth of snow accumulation was 1.2 m. and 0.9 m. on Hatu and Daran Ghati peaks respectively, while in February the snow depth was 0.9 m. at Daran Ghati.

Kumarsain.—The snowline descended to an elevation of 2130 m. in January and to 1980 m. in February at Kotgarh and Kacheri. In January the depth of snowfall at Narhanda (2740 m.) was between 45 cm. to 60 cm. and in February it was 60 cm. to 90 cm. The accumulation of snow at an elevation 2740 m. was 0.3 m. to 0.8 m. in January and 0.6 m. to 0.9 m. in February. The snowfall was above normal during the period.

Kotkhai.—In January snowfall amounting to 86 cm. fell on the peaks of Naira (2290 m.), Joshla (2440 m.), Yehoo (2440 m.) and Chambhi Kubar (2290 m.). The snowfall proved very useful to standing crops. Moreover there were no snowstorms during the month. No report for February was received.

Suni.—Snow fell on five days in January and six days in February, the total precipitation in these months being 100 cm. and 85 cm. respectively. The snowline descended to an elevation of 1830 m. in January and 2290 m. in February. On the well known Shalidhar peak (2740 m.), the accumulation of snow was 0.7 m. in January, which melted away by the end of February. The snowfall was above normal during the period.

Parala.—No snow fell during the period.

Khadralla and Bashla.—In January the total snowfalls at Khadralla and Bashla were 172 cm. and 36 cm. respectively, while in February the corresponding quantities were 297 cm. and 74 cm. The snowfall was below normal in January and above normal in February.

Rohru.—Snow fell once towards end of January amounting to 15 cm. No snow fell in February. The depth of snow at some places in the region was as under :—

Name of place	Depth of snow in cm.	
	January	February
Rohru	15	Nil
Khadralla	45	120
Sangri	55	105

Other well known passes in the region were beyond approach. The snowfall was above normal in January and below normal in February.

Arki.—In January there was one snowfall of 45 cm. at Bari Dhar (2070 m.) and 15 cm. at Kamaghoo pass (1040 m.). The same quantities have been reported as accumulations at these places. In February snowstorms occurred on two days. The snowfall was normal in January.

Jubbal.—Snowfall occurred on three days in January and four days in February, the total precipitations in these months amounting to 15 cm. and 28 cm. respectively. The respective snow accumulations in January and February were 0.5 m. and 1.8 m.

The depths of snowfall at some important places in the region were as under :

Name of place	Depth of snowfall in cm.	
	January	February
Sarain (2209 m.)	91	109
Mandha Ghati (2499 m.)	226	175
Tikri (1963 m.)	37	58
Tharoch (2081 m.)	44	74
Deya (2225 m.)	101	130
Halan (2103 m.)	66	66
Guarar (2408 m.)	150	168
Talra (3223 m.)	310	267
Chopal (2342 m.)	48	61

Name of place	Depth of snowfall in cm.	
	January	February
Banah (2195 m.)	45	102
Kanda (2164m.)	66	76
Manalag (2530 m.)	112	122
Bhaloo (1890 m.)	56	48
Reoshti (1981 m.)	57	51
Lootkari (2438 m.)	112	125
Neoti (1554 m.)	5	..
Bharach (3200 m.) . . . . .	..	152
Ori (2743 m.) . . . . .	..	94
Chhuchpur (2112 m.) . . . . .	..	127

The snow accumulations at some peaks of the region were as given below :

Name of pass/peak	Snow accumulations in cm.	
	January	February
Talra (3223 m.)	91	89
Guarar (2408 m.)	46	51
Mandha Ghati (2499 m.)	107	152
Manalag (2530 m.)	30	61
Sarain (2209 m.)	61	76
Neoti (1554 m.)	5	..
Chur Peak (3658 m.)	122	..
Lootkari (2438 m.) . . . . .	..	61
Banah (2195 m.) . . . . .	..	46
Bharach (3200 m.) . . . . .	..	244
Ori (2743 m.) . . . . .	..	61
Chhuchpur (2112 m.) . . . . .	..	122
Chopal (2342 m.) . . . . .	..	41

Snowfall was above normal during the period.

KINNAUR DISTRICT

Nichar.—Snow fell on five days in January and nine days in February, the total precipitations in these months being 94 cm. and 216 cm. respectively. The snowline descended to 1520 m. in January and 1370 m. in February. All the well known passes in the region were blocked in both the months. In February at Daran Ghati the snow accumulation was 2.4 m. The snowfall was below normal in January and above normal in February.

Chini (Kalpar).—January experienced eight days of snowfall, while February witnessed ten days of snowfall, the total falls in these months being 56 cm. and 81 cm. respectively. In January passes like Haran Ghati, Brua and Sangla Ghati were blocked due to heavy snowfall and the accumulation

of snow during the month was 0.6 m. In February the snowline descended to a height 1830 m. and the snow accumulation in this month was reported to be 0.8 m. at a height of 2781 m. The snowfall was below normal in January and above normal in February.

Chini.—Snow fell on nine days in January and eleven days in February, the total falls being 58 cm. and 139 cm. respectively. No information regarding snowfall on higher peaks was available because they were beyond approach. The snowfall was above normal during the period.

MANDI DISTRICT

Mandi.—Snowfall occurred on eight days in January and four days in February. The depths of snowfall on the following well known passes and peaks were as given below.—

Name of pass/peak	Depth of snowfall in cm.	
	January	February
Shikari	185	90
Tungasi	150	90
Raigarh	165	60
Kashian	185	90
Blabhu . . . . .	..	105
Kandhi . . . . .	..	60

The above quantities have also been reported as accumulations at the end of these months at these places. The snowfall was about normal during January and above normal in February.

Suket Forest Division.—At Jhungi snow fell on one day each in January and February, the falls being 10 mm. and 0.3 mm. respectively. At Karsoj and Suket no snow fell during the period. The snow accumulations on higher peaks and passes at the end of January and February were 1.2 m. and 0.6 m. respectively.

III—UTTAR PRADESH

TEHRI GARHWAL DISTRICT

January witnessed three days of snowfall while February experienced five days of snowfall. The snowline descended to a height of 1220 m. in January and 1520 m. in February. The thickness of snowcover varied from 15 cm. to 46 cm. on the peaks of Surkanda, Kanatal, Gajya, Thauldhar, Kandia and Nagtiba in January and 4 cm. to 46 cm. on the peaks of Surkanda, Nagtiba, Dhanolti, Kedardanda, Bhandrapunch, Kanatal, Gajya, Thankdhar and Kandia in February. The depth of snow accumulation was 91 cm. in January and between 4 cm. to 46 cm. in February. All the passes were under snow in February. The snowfall was normal in both the months.

GARHWAL DISTRICT

January and February both experienced seven days of snowfall. The snowline descended to a height of 1370 m. in January and 1520 m. in February. The depth of snow accumulation varied from 8 cm. to 305 cm. in January and 5 cm. to 244 cm. in February. The snowfall was normal during the period.

ALMORA DISTRICT

The snowline descended to an elevation of 1830 m. both in January and February. The total amounts of snowfall and snow accumulations at the end of January and February were as given below :—

Locality	Snowfall & snow accumulations in cm. at the end of	
	January	February
	<i>Falls</i>	
Malla Danpur	180 to 430	210 to 490
Malla Darma	30 to 120	60 to 180
Byans, Chaudaus & Gorifat	120	..
	<i>Accumulations</i>	
Kautela Peak	90	185
Kafini Peak	90	245
Bankatia Peak	215	365
Pindar Peak	185	335
Nanda Devi Peak	245	425
Sundardhunga	215	365
Lipuleg	120	275
Limpialeg	185	365
Masurling . . . . .	..	150
Unchdhura . . . . .	..	185

The snowfall during the period was almost normal.

NAINITAL DISTRICT

Mukteswar.—Snowfalls of light to moderate intensity occurred on four days in January and five days in February, the total depths of falls in these months being 28 cm. and 11 cm. respectively. These falls extended to the areas of Nainital, Ramgarh, Gagarh, Almora etc. The snowfall was normal for both the months.

Hot Weather Period—March to May

I—JAMMU AND KASHMIR

SOUTH ANANTNAG DISTRICT

Srinagar.—No snowfall occurred during the period. In March the depth of snow on high peaks in the region was 1.8 m.

Patni Top (Batote).—No snowfall occurred during the period at the station proper. However, snowfall occurred on last two days in March on high ranges and peaks above the height of 2130 m.

Snow accumulation was present at Eastern Pirpanjal (4110 m.) and Ensin Dhar (3350 m.) both in March and April while it was restricted only to Pirpanjal range in May.

II—THE PUNJAB (I)

CHAMBA DISTRICT

Pangi

Kilar (Pangi Range).—Snow fell on seven days in March and two days in April; the corresponding snowfall amounts being 110 cm. and 15 cm. The respective snow water amounts

(or water equivalent of snow) were 110 mm. and 16 mm. The snow accumulations on Sach Pass (4410 m.) were 12.0 m., 14.0 m. and 5.0 m. in March, April and May respectively. No snowfall occurred in May. The snowfall was above normal both in March and April.

Churah

Tissa.—No snow fell in March. The accumulations of snow on Sach Pass and Chehri Pass were 3.0 m. and 3.7 m. respectively. No reports were received for April and May.

Bhandal.—In March snow fall occurred on five days on the passes of Gamgahal and Padhrī, the depths of snow being 95 cm. and 70 cm. respectively. The same amounts have been reported as accumulations at the end of March. The snowline descended to a height of 1830 m. in this month. In May one snowstorm occurred above 3050 m. The snow accumulations on Gamgahal and Padhri passes were 4 cm. and 3 cm. respectively. The snowfall was below normal during the period.

Tikri.—No report was received for March. It snowed twice each in April and May at a height above 3960 m. In both these months, however, snow accumulation was present at a height above 4570 m. At high altitudes above 3960 m. snowfalls were common on every cloudy day. The average depth of snow varied between 25 cm. and 60 cm. in April and 25 cm. and 30 cm. in May. The snow accumulations on the following passes and peaks were as under :—

Name of Pass/Peak	Snow accumulation in cm. in	
	April	May
Drati Pass	6	30
Chaurasi Peak	8	8
Mehlu Pass	8	5

Snowfall was above normal both in April and May.

Chamba.—In March slight snowfalls occurred on four days at Pangī. The snowline descended to a height 3660 m. The snow accumulation on Sach pass was 90 cm. No snow fell in May. The snowfall was below normal in March. No report was received for April.

MAHASU DISTRICT

Phancha.—No snow fell in the period. In March the accumulation of snow on Gamoghati pass (2743 m.) was 45 cm.

Chini.—Snow fell on three days in March, the total amounting to 6 cm. No snow fell in April and May. No information regarding snowfall on higher passes is available as they were beyond approach. The snowfall was above normal in March and below normal both in April and May.

Chini (Kalpar).—Snow fell on two days in March, the total amount being 3 cm. No reports were received for April and May.

Rampur.—In March it snowed on Daranghati and Hatu Peaks, the respective amounts being 8 cm. and 10 cm. The corresponding snow accumulations at these places were 30 cm. and 60 cm. No snow fell in April and May.

Kumarsain.—Snow fell on the peak of Narhanda (2740m.), the amount being 1 cm. The same quantity has been reported as accumulation on the peak in this month. No reports were received for April and May.

Rohru.—No snow fell during the period.

Khadrala and Bashla.—Snow fell on eight days in March at Khadrala, the total amounting to 37 cm. No snow fell at Bashla in March. The snowfall in this month was almost normal. No reports were received for April and May.

Arki.—No snow fell in March. No reports were received for April and May.

Jubbal.—Snowfall occurred on two days in March and one day in April, the total amounts being 45 cm. and 15 cm. respectively. The snow accumulations varied from 30 cm. to 45 cm. in March, while the accumulation in April was 15 cm. The snowfall was more than normal both in March and April.

Upper Bushahar Division.—In May no snow fell at Kilba Sangla, Purbani and Nichar.

Jubbal Forest Division.—In March the snowline descended to an elevation of 1980 m. The depths and accumulations of snowfall on some peaks of the region were as under :

Name	Depths of snowfall in cm.	Accumulation of snowfall in cm.
Manalag (2530 m.)	8	15
Banah (2135 m.)	3	5
Reoshti (2285 m.)	3	..
Guarar (2410 m.)	5	120
Talra (3225 m.)	13	45
Barach (3200 m.)	45	60
Chopal (2340 m.)	3	3

The snowfall was slightly below normal. No reports were received for April and May.

MANDI DISTRICT

Mandi Forest Division.—In March the depths of snow accumulation on the following peaks were as under :

Name of peak	Accumulation in cm.
Kandhi (2440 m.)	30
Bhubhu (2745 m.)	60
Shikari (3350 m.)	60
Tungasi (2740 m.)	30
Raigarh (2900 m.)	60
Kashian (2440 m.)	30

At Shikari in April and May the snowfall amounts were 30 cm. and 20 cm. respectively. The snowfall was above normal for the period.

Suket Forest Division.—No snow fell at Jhungi, Karsoj and Suket during the period. In March the snow accumulation on high peaks was 60 cm. while in April and May no snow accumulation was present.

III—UTTAR PRADESH

TEHRI GARHWAL DISTRICT.—No snow fell during the period.

GARHWAL DISTRICT.—There were four snowfalls in March, six in April and two in May. The snow accumulations were upto 90 cm. in March, 3 cm. in April and 60 cm. in May. The snowline descended to 1830 m. in March and April, and to 2440 m. in May. The snowfall was below normal during the period.

ALMORA DISTRICT.—At Malla Darma the snowline descended to 2440 m. in March, 4270 m. in April and 4420 m. in May and the amounts of snowfall in these months were 15 cm., 60 cm., and 5 cm. to 60 cm. respectively. The snowfalls at Malla Danpur were 60 cm. to 150 cm. in March, 30 cm. to 150 cm. in April and 6 cm. to 8 cm. in May. The accumulations of snow on important peaks in the period were as under :—

Name of Peak	Accumulation in metres		
	March	April	May
Kautela	2.1	0.6	0.3
Kafni	2.4	0.9	0.5
Bankatia	4.3	2.1	1.2
Pindar Peak	3.7	1.5	0.9
Nanda Devi	4.9	2.4	1.5
Sundardhunga	4.0	1.7	1.1
Lipuleg	0.8	..	..
Limpialeg	0.8	..	..
Unchdhura	0.3	..	..

Southwest Monsoon Period—June to September

June—July

I—JAMMU AND KASHMIR

NORTH BARAMULLAH DISTRICT

Gulmarg.—There were no snowfalls in June and July. Snow accumulation on Apharwat and Handibal mountains was above normal in June and below normal in July.

SOUTH ANANTNAG DISTRICT

Srinagar.—No snowfall was experienced during the period. No snow accumulation was also reported both in June and July.

Patni Top (Batote).—No snow fell both in June and July. In June snow accumulation was present on Eastern Pirpanjal range (4110 m.) which melted away by the end of July.

II—THE PUNJAB (I)

CHAMBA DISTRICT

Pangi

Kilar (Pangi Range).—No snow fell during the period. The snow accumulation on Sach pass (4410 m.) was 1.2 m. in June, which melted away by the end of July.

Churah

Tissa.—No snow fell during June and July. The accumulations of snow on some passes of the region were as under :

Name of Pass	Snow accumulation in metres	
	June	July
Sach pass	2.4	0.6
Chehni pass	2.4	0.6
Bara pass	2.4	0.6

Bhandal.—No snow fell during the period. Snowfall was below normal in June.

Tikri.—In June snow fell at a height of 4570 m. and the accumulation of snow varied from 8 cm. to 25 cm. at this height.

In July neither snowfall nor snow accumulation was experienced.

The snow accumulations on higher passes and peaks of the region in June were as under :

Name of pass/peak	Accumulation in cm.
Drati peak	15
Chaurasi peak	8
Mehlu pass	5

The snowfall was below normal in June. No snow accumulation is reported in July.

Chamba.—No snow fell during the period.

Lower Chamba.—There occurred one snow storm in June and three in July. The snowline descended to 2740 m. in June and 2440 m. in July. The depths of snow at important peaks in the region were as under :

Name of peak	Depths of snow in cm.	
	June	July
Basodhan	5	8
Duga Bhadarwa	8	15
Juwali	15	20

The same quantities have been reported as accumulations at the end of these months. The snowfall was below normal in June and above normal in July.

MAHASU DISTRICT

Khadrala and Bashla.—No snow fell in June. No report was received for July.

Phancha.—No snow fell in June. No report was received for July.

Rampur.—No snow fell in June. No report was received for July.

MANDI DISTRICT

Mandi Forest Division.—No snowfall or snow accumulation was experienced during both the months.

Suket Forest Division.—No snow fell at Karsoj, Jhungi and Suket both in June and July.

III—UTTAR PRADESH

TEHRI GARHWAL DISTRICT.—No snow fell in July. Report for June was not received.

GARHWAL DISTRICT.—In June there occurred one snowfall, the depth of snow accumulation at a height 3200 m. varied between 1 cm. and 15 cm. No snow fell in July. The snowfall was about normal during the period.

ALMORA DISTRICT.—At Malla Darma the snowline descended to a height of 4880 m. in June and 4270 m. in July. The amount of snow in June and July was as under :

Locality	Falls in cm.	
	June	July
Malla Darma	60	Nil
Malla Danpur	5 to 18	Nil
Byans	38 to 53	15 to 23

The snow accumulations at important peaks or passes were as under :

Peak Pass	Accumulation in cm.	
	June	July
Kafni	Nil	5
Bankatia	8	15
Pindar Peak	6	14
Nanda Devi	9	18
Sundardhunga	6	13
Lipuleg	90	90
Limpialeg	160	150

The snowfall was almost normal for the period.

August—September

I—JAMMU AND KASHMIR

NORTH BARAMULLAH DISTRICT

Gulmarg.—No snow fell in August. One snowfall was experienced in September, amounting to 13 cm. Slight snow accumulation was present on Apharwat mountain in both the months. The snowfall was below normal for the period.

SOUTH ANANTNAG DISTRICT

Srinagar.—No snow fell during the period.

Patni Top (Batote).—No snowfall occurred both in August and September.

II—THE PUNJAB (I)

CHAMBA DISTRICT

Pangi

Kilar (Pangi Range).—No snowfall occurred in August and September. The depth of snow accumulation on Sach pass (4410 m.) was 60 cm. during the period. The snowfall for August was reported as normal.

Tissa.—There was neither snowfall nor any snow accumulation during the period.

Bhandal.—No snow fell during the period. Also, no snow accumulation was experienced.

Tikri.—In August very few snowfalls were observed at height 4570 m. and accumulation of snow which was conspicuous at this level, varied from 8 cm. to 25 cm. The snow accumulations on the peaks of Drati, Chaurasi and Mehlu were 15 cm., 8 cm. and 5 cm. respectively.

MAHASU DISTRICT

Phancha.—There was no snowfall during August while in September little snow fell on the peaks of the nearby mountains.

Rampur.—No snow fell at the station proper in August.

MANDI DISTRICT

Mandi Forest Division.—No snowfalls or snow accumulations were experienced both in August and September.

III—UTTAR PRADESH

TEHRI GARHWAL DISTRICT.—There were no snowfalls in August and September.

GARHWAL DISTRICT.—No snow fell in August. In September five snowfalls occurred, the amounts varying from 1 cm. to 60 cm. at heights ranging from 2740 m. to 4880 m. The snow accumulation was 60 cm. on peaks at a height 4880 m. The snowfall was normal in September.

ALMORA DISTRICT.—At Malla Darma the snowline descended to a height 4880 m. in August and 4570 m. in September.

At Malla Danpur light snowfall was experienced in August while in September the amount of snowfall varied between 13 cm. and 75 cm.

The following table gives the depths of accumulations of snow at the end of August and September on important peaks :

Name of Peak	Accumulation in cm.	
	August	September
Kafni	6	6
Bankatia	16	16
Pindar	15	15
Nanda Devi	18	18
Sundardhunga	13	10

During the period snowfall was almost normal.

I—JAMMU AND KASHMIR

GILGIT DISTRICT

Gurez.—No report was received for October. Snow fell on six days in November and three days in December, the total amounts in these months being 50 cm. and 40 cm. respectively. Snowstorms were experienced on two days in November on Razdhani pass (3660 m.). At the station proper the accumulation of snow was 4 cm. in November and 20 cm. in December while on higher passes of the region the accumulations were 45 cm. in November and 60 cm. to 75 cm. in December.

In December the snowfall was much below normal

SOUTH ANANTNAG DISTRICT

Srinagar.—During the period snowfalls occurred on the surrounding mountains. In November and December light snowfall occurred at the station, accompanied with rain and shower, the total precipitations in these months being 10.1 cm. and 1.4 cm. respectively. The snowfall was normal in October, above normal in November and below normal in December.

Patni Top (Batote).—Snow fell on two days in October on Eastern Pirpanjal Range (4110 m.) and one day in November on Eastern Pirpanjal, Sansar (2290 m.) and Kud peaks (2700 m. to 3350 m.). No snow fell in December. Snow accumulation was present on the high peaks of the region during the period.

II—THE PUNJAB (I)

CHAMBA DISTRICT

Pangi

Kilar (Pangi Range).—No report was received for October. It snowed on four days in November and two days in December, the total falls in these months being 43 cm. and 75 cm. respectively, and the corresponding amounts of water (melted snow) being 8 cm. and 10 cm. In November the snow accumulations on Sach pass (4410 m.) and Chehni pass were 1.8 m. and 2.1 m. respectively. In December the accumulation of snow on Sach pass was 2.4 m. In November the snowfall was normal while in December it was above normal.

Ghura h

Tissa.—Snow fell on seven days in October, six days in November and one day in December. The snowline descended to a height 3660 m. in October. The depths of snowfalls on some passes of the region were as under :

Name of pass	Depth of snowfall		
	October	November	December
Sach (4420 m.)	45 cm.	2.4 m.	60 cm.
Bara	45 cm.	..	..
Chehni(4570 m.) . . . . .	..	2.9 m.	75 cm.

The snowfall was reported as normal in October and below normal in November.

Bhandal.—In October snowfall occurred on one day above a height 2130 m. the depth of fall varying from 15 cm. to

25 cm. In November slight snowfall occurred above a height 2440 m. The snow accumulations on some passes were as under :—

Name of pass	Snow accumulation in cm.	
	October	November
Padhri	30	35
Gamguhal	45	30

Tikri.—In October snowfall occurred twice above height 3050 m. the depth of fall varying from 10 cm. to 25 cm. In November snow fell thrice above a height 2440 m., the depth of snow varying from 8 cm. to 90 cm. At still higher altitudes snowfall was common on every cloudy day both in October and November. The depths of snow accumulation on some passes or peaks were as under :

Name of pass/peak	Snow accumulation in cm.	
	October	November
Drati pass	25	90
Chaurasi Peak	18	60
Mehlu pass	13	30

Snowfall was above normal in October and below normal in November. No snowfall report was received for the month of December.

Chamba—No snow fell in October. In November snowfall occurred on the peaks of Pangi and Bharmour amounting to a depth of 1.2 m. and the snow accumulations on the well known passes were 1.8 m. In December snow fell on the peaks of Pangi, Bharmour and Churah above a height 1980 m. The snow accumulations on some passes in December were as given below :—

Name of pass	Snow accumulation in December
Basodhan (2740 m.)	90 cm.
Sach (4420 m.)	1.5 m.
Padhri (3660 m.)	1.2 m.

The snowfall was above normal in November and below normal in December.

Lower Chamba.—No report was received for October. In November three snowstorms occurred while December experienced two, the snowline descending to 1830 m. both in November and December. The depths of snow accumulations on some well known passes were as under :

Name of pass	Depth of snow accumulations in cm.	
	November	December
Basodhan	15	23
Duga Bhadarwa	20	30
Juwali	25	36

The snowfall was below normal in both the months November and December.

MAHASU DISTRICT

Phancha.—No report was received for October. In November snow fell above a height of 3660 m. at the end of the month. In December also snowfall was confined to higher peak at a height 3050 m. at the end of the month.

Nichar.—In December no snow fell at the station proper while the snowline descended to between 2740 m. and 3050 m. The depth of snow accumulation on Spiti pass was 30 cm. to 60 cm. The snowfall was below normal in this month. No reports were received for October and November.

Chini.—In December snow fell on one day amounting to 3 cm. No information regarding snowfall on higher passes was available as they were beyond approach. The snowfall for the month was below normal. No reports were received for the months October and November.

Rampur.—No snow fell during the period.

Arki.—No snow fell during the months November and December.

Lower Pabar Range.—No report was received for October. At Khadrara snow fell on one day each in November and December, amounting to 5 cm. and 1 cm. respectively. No snow fell at Bashla. Snowfall was about normal in both the months.

Jubbal.—No snow fell in December.

KANGRA DISTRICT

Seraj.—Slight snowfall occurred on high peaks in the region in November and December. Depths of snowfall on peaks were as follows :—

Name of peak	Depth in cm.	
	November	December
Jalori	5	3
Lambri	8	..
Bashleo . . . . .	..	5

Nirmand.—There were no reports in October and November. No snow fell in December.

MANDI DISTRICT

Mandi Forest Division.—No snow fell in October and December. In November snowfall amounting to 30 cm. fell at Shikari (3350 m.). The same quantity has been reported as accumulation at this place. Snowfall was reported below normal in November.

III—UTTAR PRADESH

TEHRI GARHWAL DISTRICT—No snow fell during the period at the station proper. In November snowfall occurred on peaks while in December 5 cm. of snowfall oc-

curred at Dedital and Kelsu (2740 m.). The same amount has been reported as accumulations in December.

Snowfall was reported as below normal in December.

GARHWAL DISTRICT.—There had been three snowfalls in October, the depth of snowfall varying from 3 cm. to 90 cm. November also experienced two snowfalls, the total depth amounting to 1.2 m. The snowline descended to a height 2740 m. in October and 3050 m. in November. No snow fell in December. The snowfall was below normal during the period.

ALMORA DISTRICT.—Snowfall occurred on peaks above 3050 m. in October amounting to 5 cm. in Malla Darma. There were three snowfalls in November above the height of 4570 m. At Malla Danpur snowfall was reported on high peaks during the period. Accumulations of snowfall at Malla Darma and Malla Danpur in November were 60 cm. and 25 cm. respectively. The following table gives the accumulation of snowfall at important peaks in the region.

Name of peak	Accumulation		
	October	November	December
Kafini	97 cm.	81 cm.	10 cm.
Bankatia	94 cm.	3.6 m.	10 cm.
Kautela	66 cm.	..	..
Pindar	99 cm.	2.8 m.	30 cm.
Nanda Devi	97 cm.	3.6 m.	..
Sundardhunga	84 cm.	2.8 m.	30 cm.

Snowfall was normal during the period.

Summary

Cold Weather Period—January and February

Snowfall during the period was above normal in Jammu and Kashmir and Punjab (I) and normal in Uttar Pradesh.

Hot Weather Period—March to May

Snowfall was about normal in Punjab (I) and slightly below normal in Uttar Pradesh.

Monsoon Period—June and July

As usual practically no snow fell in Jammu and Kashmir and Punjab (I) while in Uttar Pradesh it was normal.

Monsoon Period—August and September

As usual very little snow fell in Jammu and Kashmir and Punjab (I) while in Uttar Pradesh it was normal.

Post Monsoon Period—October to December.

Snowfall was normal in Jammu and Kashmir and Punjab (I) while in Uttar Pradesh it was slightly below normal for the period.

N.B.—It is not possible to adopt a single classification of seasons which will be satisfactory for the whole of India. The classification adopted in this publication, is, however, considered as the most satisfactory one and the least open to objection especially from the point of view of rainfall.